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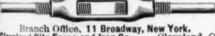
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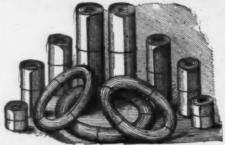
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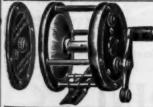
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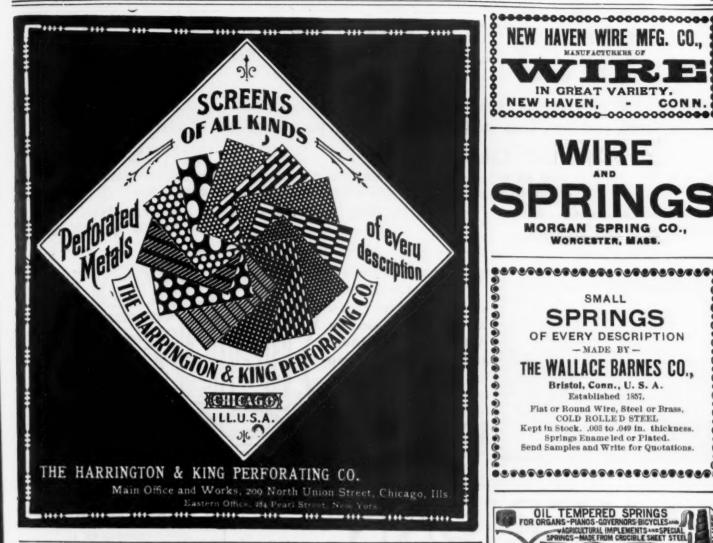
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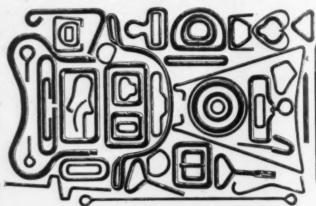
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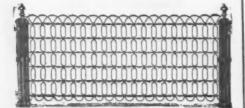
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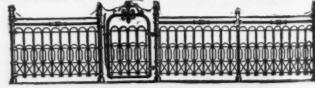
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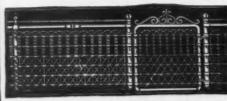
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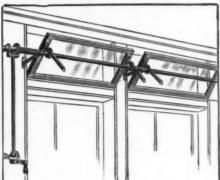
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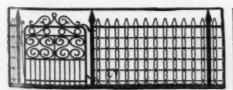
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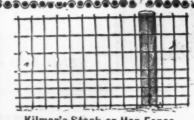
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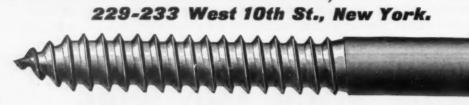
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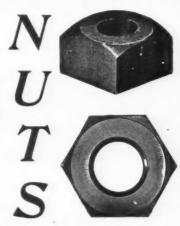
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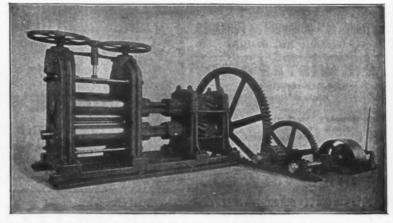
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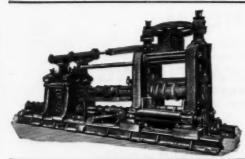
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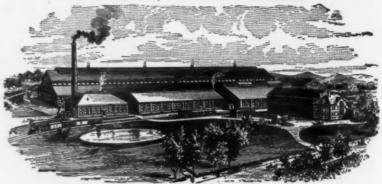
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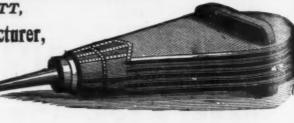
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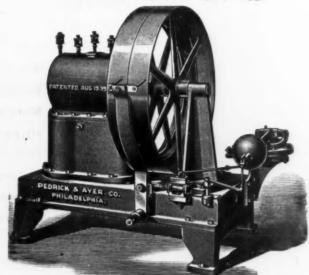
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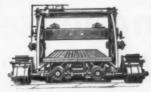
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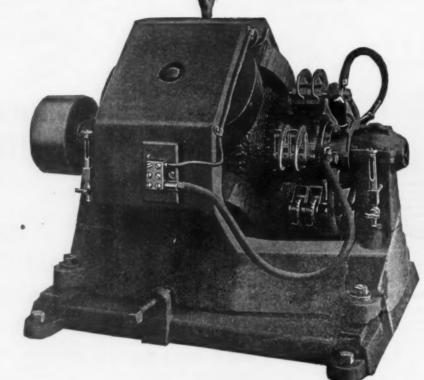
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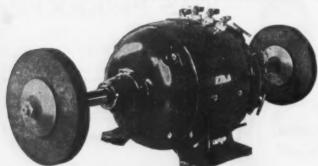
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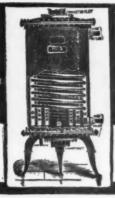
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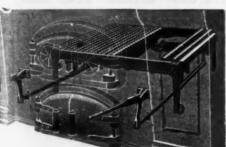
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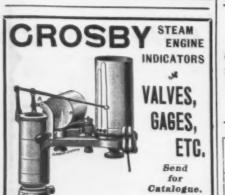
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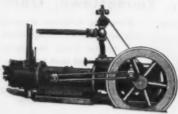
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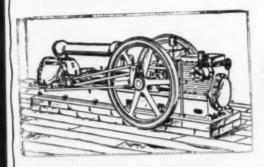


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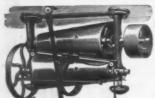
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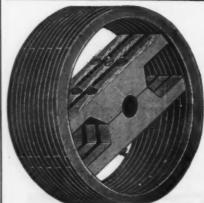
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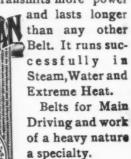
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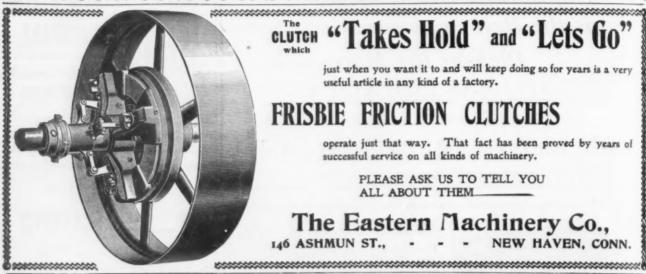
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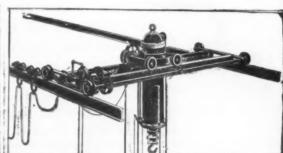
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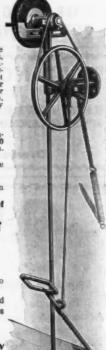
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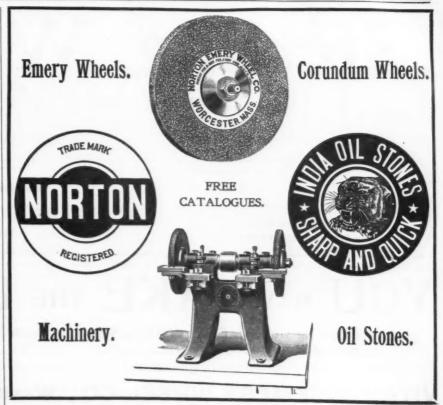
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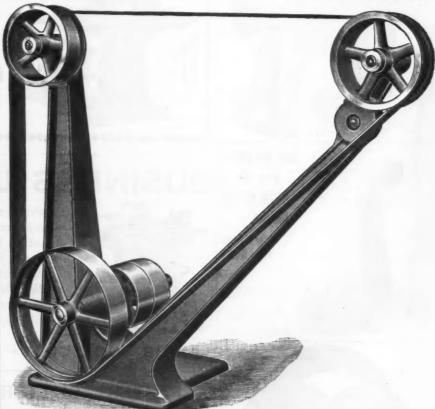
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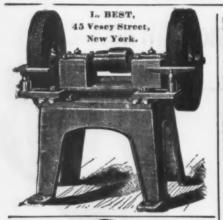
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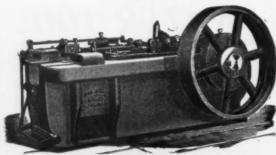
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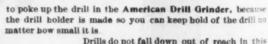
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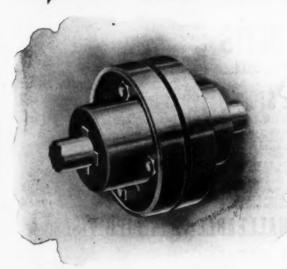
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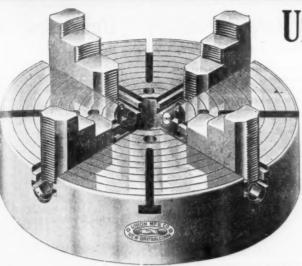
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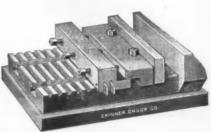


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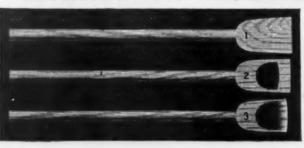
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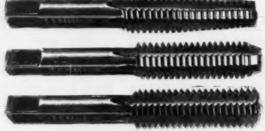
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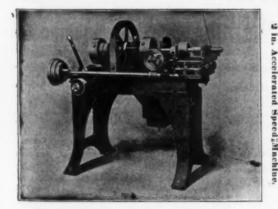
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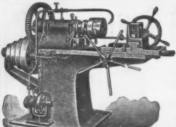
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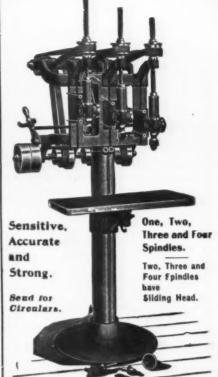
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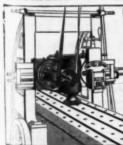


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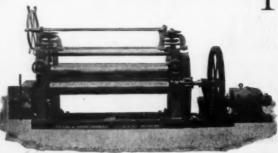


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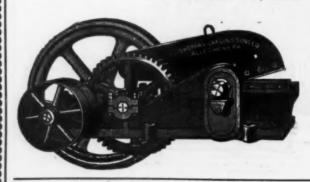
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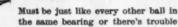
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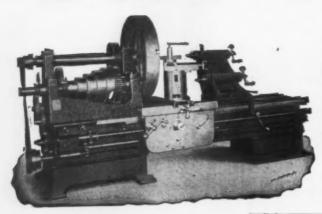
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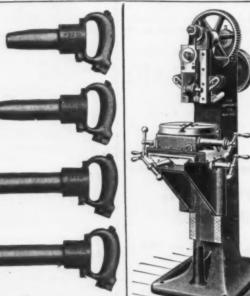
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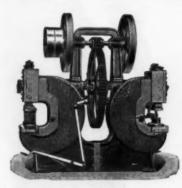
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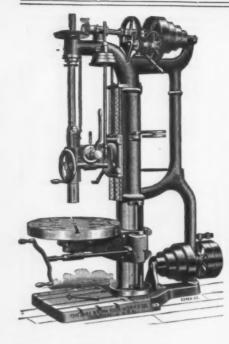
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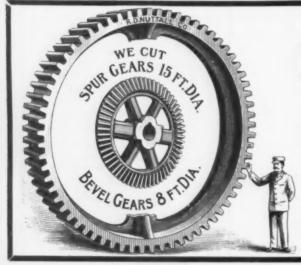
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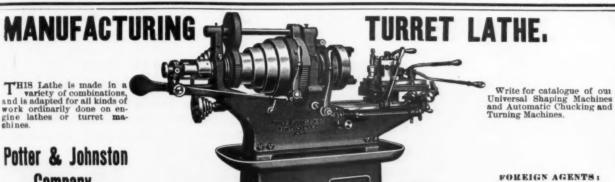
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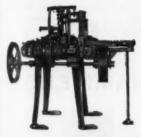


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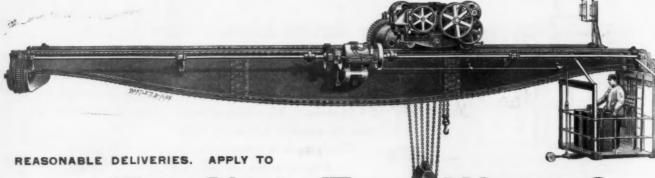
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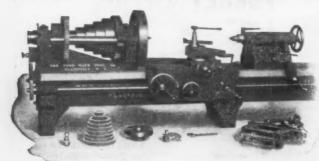
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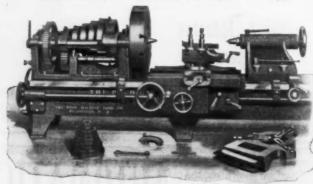
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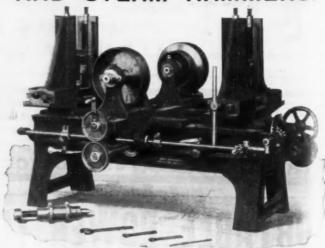
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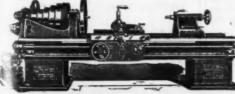
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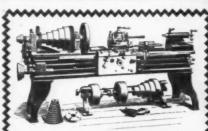
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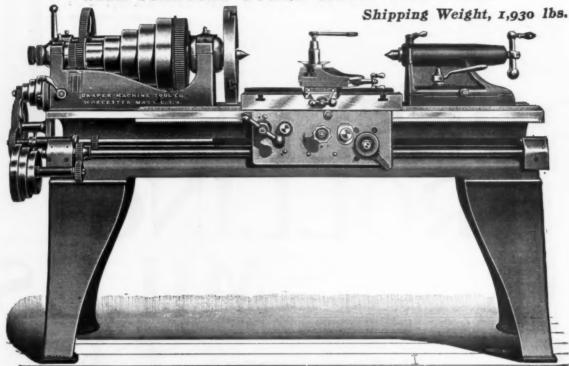
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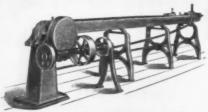


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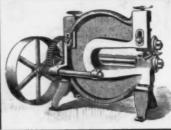
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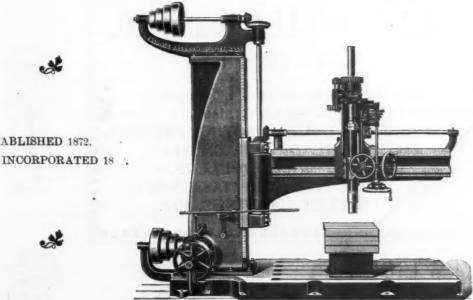
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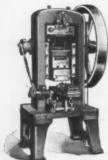


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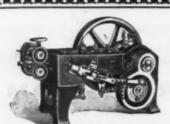
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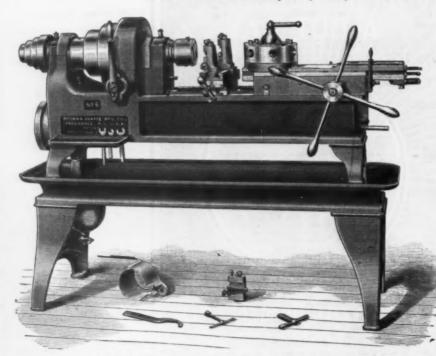
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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Crosby A Column Screw Press, heavy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 50 H. Horizontal Tubular Boiler, guaranteed 225                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 300 H. Austin Feed Water Heater 120                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 100 H Receiving Tank, 150 lbs. test 60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 16 in, " Huyett & smith " Ventilating Fan 40                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 10 H. Upright Side Crank Engine, new                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 15 H. Submerged Flue Upright Boller 70                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 15 H. Submerged Flue Upright Boller                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Pendulum Foot Press 25                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| State Sensitive Drill and Chuck                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 16 in Upright Drill Press 15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 2) in. x 20 in. x 4 ft. fron Planer, not complete 80                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 12 H. Kimble Automatic Upright C. C. Engine 80                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 10 H "Eric City" Upright Boller, complete                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 15 H. Upright Boiler, complete with fittings 80                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| "Diamond" Emery Grinder                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 4 ft. x 15 in. Planer Chuck, neavy 1!                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Send for discounts.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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1 11 x 5 Prentice Bros. 1 11 x 6 Prentice Bros. 3 12 x 6 Spencer, speed.

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110 in. Central Machine.
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13 in. x 9 ft. Engine Lathe, Stover.

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FIFTEEN THOUSAND ACRES OF coal in Centre and Clinton Counties, Pa. on the Beech Creek Railroad, suitable for ship-

TEN THOUSAND ACRES OF COAL on the main line of the Pennsylvania Railroad, containing four veins of coal, mostly above water. John Fulton. Mining Engineer of Johnstown, Pa., estimates over 80,000,000 acres of coal on this property. Will be sold cheap to a prompt buyer

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Pair 14 x 36 Harris-Corliss; 24 x 56 Watts-Campbell; 13 x 12 and 2 li x 12 New York Safety, 100 K W M P., 8800, 500, 500, 50 bight dynamos 2 30 H P. crane motors, speed 500 l' H P., 280 volt motor, low speed, 4 sturievant exhausters, 3 Buffalo blowers. Steam shovels, hoisting engines, crushers, coai mining machinery and contractors' equipment SEND DE-SCRIPTION any machinery wanted or for sale.

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Elevator Stop and Lock Patent, Elevator Gate and Gar Patent, Send for our list of patents P. O. BOX 2864, Bosto Boston, Mass.

Five 21/2 in. Cleveland Automatic Screw Machines, used less than twelve months. In first-class condition.

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80 H. P. 60 in. x 16 ft, Tubular Boller.

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2 34 x 60 Horizontal Engines, one right hand and one left hand. These orgines are now coupled to one shaft, but would furnish with ity wheel or band wheel to suit each separately.

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One 18 in. x 42 in. Watts Campbell and 22 in. x 42 in. wright Corliss Engines. High Speed Automatic Simple, Compound Condensing and Slide Valve Engines; also Blowing Engines, Boilers, Heaters, Pumps, Vacuum Pans. Ice Machines, Electric Motors, Generators, Railway Supplies, Metal Working and General Machinery

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2 Phoenix 12 x 12 engines.

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14 x 20 x 20 Chase Pump. 1 No 10 Sturtevant Blower.

Small Electric Light Plant.

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One 32 in. Reversing Ricoming Mill with pair of 8 x 48 in engines; also live tables, table engines, ydraulic manipulator, etc., built by Mackintosh, (emphili & Co

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Second-hand Alligator Shears, that will cut up to 2% inches square Mades to be not less than 12 inches long; to be used for shearing scrap. Give full particulars, price, etc. FrANK LENAHAN & SON, 55-61 Fulton St., Buffalo, N. Y.

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24 x 48 Hamilton Corliss Engine.

24 x 34 ft. Shafting Lathe.

16 x 42 Altis Corliss Engine.

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Two 12 r 11 and one 9 x 9 Westinghouse Engine,

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75 feet Double Leather Belt, 22 in.
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The above are all in first-class condition and ready for shipment.

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### Mill and Contractors' Machinery.

1 25 ton Morgan Square Shaft 50 ft. span traveling

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1 12 in Fitchburg Shaper, sliding head. 1 9 in. Gould Shaper.

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x 36 in. Vertical Corliss Rolling Mill Engine with 20 ft fly-wheel.
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 A full line of New Engines, Hoisting Engines, Shears, Grinding Pans, Stone Crushers and Comtractors' Machinery.

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### CUPOLAS, CRANES, LADLES, BLOWERS,

and all other Foundry Equipment, new and second-hand. Send us list of your wants.

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No. 5 Bardons & Oliver Screw Wachine, good as new, \$600.00. Han all cata, attachments and forming tool slide.

18% x 32 Allis Corline, box bed type; right hand, 10 years old, used very little and overhauled, \$600.00.

52 x 16 Full Flush Front Boller, 130 lbs. test, complete, \$600.00.

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1. 2, 4, 7, 9, 12 H P. Old Gas Engines. New, all sizes.

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Large Paper Cutter. Gauge Lathes, Motors, etc.

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Largest stock in America. Will be sold at bargains. These heaters are mostly taken in eschange for our improved Berryman (Kelley's Patent). "A Little Giant," vastly superior to all other feed water heaters, both as to results and other feedurability

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Two 85 H. P. Fischer C. C. high speed, self-oiling englues, with two 400 incandescent light Triumph dynamos with switchboard.

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12 x 36 Lane & Bodley Corliss 14½ x 15 Phœnix Automatie 7 x 7 Payne 14 x 20 Atlas 11 x 30 Fitchburg 18 x & Buckeye

2 66 x 18 Hor. Tubular Bollers.
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### For Quick Delivery.

48 in. throat, 116 in. in 36 in. at in throat, 114 in, in 1 in.

Solitting Shears,

For % in., and 16 in. plate.

Double Angle Shear for 4 x 4 x 5% in. angles.

Plate edge Beveling Shear for % in. plate.

Gate Shear and Multiple Punch, 78 in.

Riveting and Punching Press, 5 ft. gap.

Bending Rolls, 12 ft. 2 in. between housings,

100 in. bet hsgs. for 134 in. plate.

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Radial Drills, 48 in. and 60 in. arm.

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Plate Planer, 6 ft. cut.

HILLES & JONES COMPANY,

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1 30 in. x 60 in. R. H. Hawilton Corliss, 15 in. shaft; 18 (t. fly wheel in 8 sections; rim 12 in. x 15);

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### Machine Tools In Experimental Shop.

One 10 in. x 5 ft. Young Lathe, Compound Rest.

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One 18 in. x 8 ft Oak'and Lathe, Compound Rest.

One 18 in, Ohio Crank Motion Shaper.

One 20 in. Lodge & Davis Shaper.

One Brainard Plain Milling Machine, Automatic

One 30 in. Pond Style Pulley Lathe.

Two No. 2 Wire Screw Feed Machines, 15-16 capacity.

One set 6 ft. Boiler Bending Rolls.

20 ip. Drill complete, auto feed.

26 in. Barnes Drill, complete.

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One 150 H. P. Cross-compound Armington & Sims Auto Engine. Cylinders 11½ in. and 18½ in. by 15 in. stroke.
One 10 x 16 Plain Slide Valve Engine.
One 18 x 1. 24 in. Wether rill Corliss Engine.
One 12 in. x 12 in Phoshix Auto. Engine.
One 12 in. x 18 in. Babcock and Wilsox Engine.
One 18 in. x 18 in. Babcock and Wilsox Engine.
One 1 in. x 7 in. x 10 in. Duplex Worthington Pump.
Also a number of smaller Engines and Pumps.
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1 26 x 48 Allis Corliss. 1 14 x 36 Cooper Corliss.

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1 Standard gauge, 4 driver, saddle tank shifting engine. weight 60,000 lbs., fine shape, cylinders 14 x 22.

One 1-2 Yard Steam Shovel.

One McMyler Derrick for Hoisting Coal.

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### For Immediate Delivery.

1 800 lb. Merrill Drop Hammer.

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1 Small Horizontal Boring and Drilling Machine, Bement,

1 No. 13 Brown & Sharpe Milling Mach.

1 No. 11/2 Pratt & Whitney Hand Milling Machine.

1 No. 21/2 Newton Duplex Milling Mach.

2 No. 5 Cleveland Auto, Screw Machines. 1 Lodge & Davis Screw Machine 2 in.

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2 36 in. Hydraulic Wheel Presses.

1 16 in. Slotting Machine.

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### POWER PLANT.

We offer the following complete power plant at a bargain : 1 14 in. x 16 in. ENGINE.

54 in. x 14 ft. BOILER, with stack and fittings

1 No. 3 DEAN STEAM PUMP.

Entire plant is in first-class condition and nearly new. Can be seen running in Indiana. Write Write for price.

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PLANERS.

34 x 34 x 15 ft bed. made by Fairbanks, Providence, R. I. Price, \$500,00.

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Two 16 in. swing, 6 ft. bed, made by Putnam. Price, \$125.00.
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Two 18 in. swing, 8 ft. bed, made by Campbell & Gage, Waterford, N. Y. Price, \$125.00.
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F. O. B. cars, Philadelphia, Pa.

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We have a complete modern manu facturing plant near Boston, equipped with Power Presses, Automatic Screw Machines, Nickel Piating and Polishing Plant and want to correspond with parties having articles that can be made in such a factory. Address

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8 to 8 miles of 60 or 65 Relaying Rail with Angle Bars. Must be strictly No. 1 and subject to inspec-tion for immediate cellvery. Address I. BRENNER & SON, Pottaville, Pa.

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A Complete Set of Blind Making Machinery.

1 Sash and Door Sticker.

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1 Two Spindle Shaper.

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1 0 H. P. Stationary Engine and Boller.

1 40 H. P. Stationary Engine and Boller.

1 40 H. P. Stationary Boller.

1 50 H. P. "

1 50 H. P. "

1 50 H. P. "

1 5 H. P. "

1 5 H. P. "

2 5 H. P. Motor.

1 25 H. P. Motor.

1 25 H. P. Motor.

1 25 H. P. Stationary Boller with new set of dies.

1 D. K. Dederick Perpetual Balling Press, as good as new.

3 Ensilage Cutters.

Write for prices. All of above will be sold cheap for cash.

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### Factory Site at Niagara Falls.

Four lots for sale situated upon the Fre Rail-road, with a spur track from same. For particu-lars with ground plan and photograph of the building apply to building, apply to

F. W. OLIVER CO.,

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Hardware stock in a New England city of 60,000 inhabitants. First class location and an up-todate store and stock (incorporated). Inventory \$10,000 00 to \$12,000,00. Address

BELCHER & LOOMIS HARDWARE CO.,

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### AN AGENT OF MANUFACTURERS OF FRENCH PRUNERS

of the best marks is open for an agency of American horticultural tools and implements or analogous articles in ironmongery. High class references will be given. Apply to

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1? ft. 13 ft. Bor'ng and Turning Lathe.
1 20 in x 8 ft. Engine Lathe.
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112 in. x 5 ft. " "
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130 x 3 i x 8 ft. Worcester Mcb. Co. Planer.
1 Flisther's 16 x 6 ft. Monitor Fox Lathe.
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Write for list.

HANNAN & FINTON, Springfield, Mass.

WANTED. A well established machine tool shop, located on the Rhine, Germany, desires the services of a first-class, experienced constructing engineer, one familiar with the designing and construction of hydraulic machinery adapted to ship-building. Position permanent to the right man one conversant with the German language preferred. State salary and reference, addressing "FNGINEER," care The tron Age, 20-22 Fickering Bldg., Cincinnati, Ohio.

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1 Second hand Corliss Engine, 14 in. x 42 in.

1 Blake Stone Crusher, 15 x 9 with screen.

Dean Duplex Steam Pump, 5 x 314 x 5. 3 Edson Diaphragm Pumps.

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We have for sale a complete Foundry for making Stoves. Will sell whole or part.

The Thomas & Lowe Machinery Co., Providence, R. I.

FOR SALE OR TO LET. Drop Forge Works, building 40 x 130 ft., all fitted up with modern tools. 3 Drops. 3 Power Presses. Machine Shop. Japanning Plant. Shears. Brick Boiler House. 2 Steel 40 horsepower Boilers. 1 50 horse-power Engine. Com-plete Oil-Fuel Plant. Side track in yard, no shift-

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### FOR SALE.

SPECIAL ENCINES.

1 14 in. x 20 in. (Vertical) Slide Valve.

1 14 in. x 30 in. Keystone Corlies drand new).

1 14 in. and 19 in. x 24 in Tandem Comp'd "Buckeye" (latest type) with condenser.

1 22 in. x 42 in. Wetherill Corliss.

1 23 in. x 48 in. Geo. H Corliss make.

1 24 in. x 36 in. Machintosh, Hemphill & Co.

1 36 in. x 60 in. Tangye Red type.

1 Crane Elevator Co. Modern Elevator Engine.

BOILER.

1 Horizontal Tubular, 72 in. x 16 ft., with 84 31/6 in tubes, approved for 100 lb. pressure, complete

SHAFTS and PILLOW BLOCKS.

15 Very fine Forged Shafts, finished all over, 10 in. diam. to 16 in.

WHEELS For Balance and for Belts. SMOKE STACK.

Very fine steel self-supporting stack, 64 in. diam., 100 ft. high, with base casting, ornamental top and ladder.

HAMMERS.

Hackney Cushion Hammer. 1200 ib. Double Frame Steam Hammer. do.

SHEARS.

New Alligator Shear with capacity up to 2½ in. Cold Billets, or for Scrap cutting. Knives 14 in. long.

LOCOMOTIVES, New and Second-Hand

\*Signifies Right-hand. †Signifies Left-hand. B. M. EVERSON,

German Nat. Bank Bldg (6th and Wood), PITTSBURG, PA. Sales Agent for

Baldwin Locomotive Works, Phila,

### Bargains in Locomotives.

Ten 16 x 24 Standard Gauge Locomotives, weight 38 and 35 tons; also one 20 ton Standard Gauge Locomotive, all with tenders; one 30 fauge Locomotive and one Standard Gauge Saddle Tank Locomotive, weight about 9 tons. One 15 ton Buffalo Pitts Road Roller and one No. 3 Gates Crusher mounted on wheels.

GRANT & WILLIAMS. 828-324 Park Row Bldg., New York, N. Y.

### For Sale Cheap.

7 Contractors' Plows, No. 99 "Syracuse." 6 Contractors' Plows, No. 1 "Syracuse."

1 Portable Saw Mill, complete.

16 in. Centrifugal Pump.

3 Gleason & Bailey Fumps, No. 2.

3 Derrick Hoists.

5 No. 1 Jenne Jacks.

30 Two Wheel Road Scrapers, Western Wheel Scraper Co.

6 Narrow Gauge Dump Cars, 36 in.

SMITH & CAFFREY,

Syracuse, N. Y.

### For Sale.

80 x 48 Corliss Upright Engine, with 30 ten

One 20 x 20 Upright Slide Valve Engine, com-plete, with Judson governor and 12 foot by 20 inch balance band wheel. It has also a 16 x 20 cylinder with steam chest.

One 4 and 2 six inch Judson governors, complete and in good order.

PENN IRON CO., Lancaster, Pa.

### FOR SALE.

Car Wheel Lathe: bed. 10 ft. 4 in. long, 6 ft. wide; face plate, 80 in. in diameter; weight, 5 or six tons; price, \$250; f. o. b. cars Hartford.

THE WHITLOCK COIL PIPE CO., Hartford, Conn.

### Second-hand Machinery For Sale.

Engines, Boilers, Pumps, Heaters, Iron and Wood Working Machinery, all makes, all kinds.
Shafting, Pulley Hangers, Boxes, etc. Mining,
Cupola and Forge Blowers. We make a specialty
of Saw and Planing Mill Machinery.

HARRIS MACHINERY CO. 1045 Washington Ave., S. E., Minneapolis, Minn.

### FOR SALE.

150 H. P. Erie Engine in first class condition, with automatic cut-off, used about one year Also one large solid iron Pulley, 6 ft 9 in diameter, 6 in. hole, 12 in. crown face keyway, 1 3-16 in. wide, % in. deep, hub 10 in. diameter.

THE STANDARD TOOL COMPANY, Cieveland, O.

### FOR SALE.

One Pond Planer, 86 x 86 x 17 ft.

One New Haven Lathe, 25 in. swing, 16 ft. bed.

One Vertical Engine 14 x 14, roughtry valve, self contain.

One Sturtevant Steel Blower, 68 in. high, 26 inlet, 22 outlet.

Also one Atlas 10 x 12 Engine.

Also a large lot of iron tanks.

WM, ECKBOLDS' SONS. 711 E. Girard Ave., Philadelphia.

### FOR SALE.

One Corliss Engine, 26 in. x 60 in., fly wheel 20 ft. diameter, section of rim 1516 in. x 11 in. One Multiple Drill Press, four spindles, 8 ft. between housings, built by Messrs. Bement, Miles & Co. for drilling holes in plates.

Five trains of plate rolls. One 9 ft Flywheel, new, 7 in. bore, weight 6000 lbs. Two Bliss Guillotine Upright Shears, 72 in. gap, 8 in. stroke. One Dean Duplex Pump, 6 x 51/6 x 6. One Rod Straightening Machine, built by the Medart Patent Pulley Co. for straightening rods up to 8 in. diameter and 25 ft. long. A lot of extra cold and hot plate rolls (new) and numerous other items from the Olney Copper Plant.

HENRY A. HITNER'S SONS, Gaul and Sargeant Sts., Philadelphia.

SECOND-HAND, FIRST-CLASS ORDER. Section And, The Rest of The State of the Act of the Ac

1500 ib Morgan & Williams Double Standard Steam Hammer.
1500 ib Prart & Whitney Board Lift Automatic Drop Hammer.
1501 ib Prart & Whitney Board Lift Automatic Drop Hammer.
152 in. to 12 in. Curtis & Curtis Pipe Machine.
153 in. to 12 in. Curtis & Curtis Pipe Machine.
154 in. to 12 in. Curtis & Curtis Pipe Machine.
155 in. Index spindle Profiler.
155 in. Head Spindle Profiler.
155 in. Head Spindle Profiler.
156 in. Atom Press
156 in. Atom Press
157 in. Head Milling Machine (Reed.).
158 in. throat Power Bloam.
159 in. throat Power Shear.
159 in. throat Power Shear.
150 in. Boynton & Planer.
150 in. Heady Shaper.
150 in. Heady Shaper.
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NEW.
Engine Lathes 12 in. to 3; in. Swing, various lengths of bed.

of bed. 10 in. to 40 in. Drill Presses, standard makes. Nos. 1, 2 and 3 Cincinnati Full Univ Milling Machs. No. 2 Cincinnati and No. 2 Hisey Plain Milling Machs. 36 x 36 x 12 ft. Gray Placer with two heads. Write us for any machinery wanted, or what you may wish to exchange or sell.

C. C. WORMER MACHINERY CO., Pt. of Shelby Street, Detroit, Mich.

### WANTED.

A Small Portable Iron Annealing Furnace, second-hand.

ALBERT KRIMMERT.

### Bowling Green Bldg., New York. FOR SALE.

A foundry plant in complete operation, employing 40 molders, and doing a large and profitable business, making a line of staple specialties, sales of which can be increased to almost any extent. The plant is at uated in an inland city in a Central Western State, and railroad facilities are exceptionally good. The owner wishes to retire. This is a splendid opportunity for a good practical foundry man with some capital; or a partnership could be formed with the practical men in charge of the different departments. Address.

"FOUNDRY PLANT,"

care The Iron Age, New York.

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### SECOND-HAND TOOLS.

Three "Bryant" Cold Saws. One "Whitcomb" Planer, 87 in. x 36 in. x 9 ft.

One "Cockburn" Concrete Mixer.

One "Sturtevant" Blower, No. 8. No. 5. do. do. One

Two Horizontal Tubular Bollers, 66 in. x 16 ft. with 90 three-inch tubes, now running under 80 lbs. pressure.

NEW CORNELL BLOWERS-Poole's patent, all sizes—the best in the market send for prices,

J. B. & J. M. CORNELL, 26th St. and 11th Ave., New York City.

1-30 in. x 48 in. Corliss Horizontal Engine 1 -11 in. x 24 in. Slide Valve Engine. 1-5 in x 10 is Eric Engine. 3-125 Horse Horizontal Tube Boilers 1-150 Horse Horizontal Tube Boiler. 1-135 Horse Upright Colliss Boiler. 3-30 Horse Upright Boilers 1-300 Horse Berryman Feed Water Heater. 1-Hydraulic Riverling Machine 36 in gap. 1-Boiler Plate Planer, 16 ft. long. very heavy. 1-Power Shears. 1-Double Arbour Militing Machine. 1-15 in Swing Lathe, short bed 1-Horizontal Boring Machine. 8-New Woodward Steam Pumps. Several small lathes, screw cutting. 2-Double Belts, one 104 ft., one 36 ft. x 15 in., Hoyt's make. Large stock of belting various sizes. ROBT J. GRAY, 5254 East 13d St., New York

### Where to Locate.

Manufacturers using Iron, steel or wood will find the best locations for successful plants along the

### SOUTHERN RAILWAY.

These locations lead in cheap raw material, cheap, contented and desirable labor, cheap fuel and in good facilities for marketing products. Opportunities now open for establishing new plants are fine and should be investigated. Other investments will prove profitable in the South. South.

M. V. RICHARDS,

Land and Industrial Agent, Southern Railway, WASHINGTON, D. C.

### BLOWERS.

Root's Improved, No. 1, 2, 4, 5, 6. Baker, No. 3, 4, 41/2 and 7.

### FOR SALE.

Blacksmith and Wheelwright's Shop, consisting of Drills, Tire Benders, Upsetters. Forges, Blow-ers, Bolt Cutters, Punch and Shears, Vises, etc. All nearly new.

A. ASHER, 100 Liberty St., 2nd floor, New York.

FOR SALE.
Tools lately in use in Boiler Manuf'g Plant.

1 40-ton 36 in Gap Hydraulic Riveter, 1 set 20 ft. Niles Rolls.

1 set 20 ft. Miles Rolls. 1 13 in.  $\times$  22 in.  $\times$  13 in Westinghouse Engine. 1 18 in  $\times$  5½ in.  $\times$  18 in, Barr Pump for 500 lbs. pressure. For additional information, address

ESTATE OF WM. G. WARDEN, 1012 Witherspoon Bldg., Philadelphia.

### WANTED TO BUY.

A Power Sheet Shears to cut 14-inch plate and lighter. Also one that will cut 14 gauge and lighter. Address F. HARRIS,

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### WANTED.

Lot of 4, 6 and 8 in. second hand Cast Iron Water or Gas Pipe in good condition. State quantity and lowest price delivered Nashville, Tenn.

WERTHAN CO.,

Nashville, Tenn.

### WANTED.

To correspond with an expert shovel maker, looking to the establishment of new factory at Birmingham, Ala.

J. R. P. DUNHAM, J. B. P. DUNHAM, Birmingham, Ala.

### FOR IMMEDIATE DELIVERY. Angles, Beams, Channels, Plates, Tees, Zees, Bars.

5000 tons in stock. Moderate prices. Send for stock sheet and quotations.

### STRUCTURAL DEPARTMENT, ILLINOIS STEEL CO.,

Ossigners, Canufacturers and Erectors of Struc tural Iron Work, Dealers in Structural

50 Wabansia Ave.,

CHICAGO.

### Scrap Iron Wanted.

Light and Heavy Cast Machinery, and

Send full description of material with lowest cash price, Phila. delivery.

F. GREINER. 406 Drevel Bldg., Phila., Pa.

### BEAMS, CHANNELS, ANGLES, PLATES.

Eye Beams, from 4 ins. (7% lbs.), to 20 ins. (65 lbs.) Channels, from 4 ins. (5% lbs.), to 15 ins. (38 lbs.) Angles, from 14 ins. x 14 ins. x 3-16 in. to 6 ins. x 6 ins. x 16 in. x 15 in. angles, from 29 ins. x 2 ins. x 3-16 in. to 6 ins. x 4 ins x 15 in.

Zee Bars, 8 ins., 4 ins. and 5 ins.

Hates, 14 ins. and over

All material in 50-ft. lengths or cut to specified lengths if desired. Send for detail stock list.

All material in stock, and will be shipped immediately on receipt of order.

Quotations subject to prior sale.

THE FOREST CITY STEEL & IRON CO., Cleveland, O.

## Wagon Tires,

STEEL OR IRON, RD. EDGE OR SQUARE. Angles Up To Four Inch.

LOGAN IRON & STEEL CO., BURNHAM, PA.

Buyers of Scrap for Cash.

### RELAYING RAILS.

125 Tons 50 lb. Steel.

48 lb. " 45 lb. "

All Extra Fine.

THOMAS P. CONARD, 119 South Fourth St., Philadelphia.

### WATER PIPE FOR SALE

23,000 feet 20 in. Cast Iron Water Pipe made by K. D. Wood & Co, 170 lbs. to foot, in 12 ft. lengths in first class condition for re-use

Will be sold in lots to suit.

FRANK SAMUEL, Harrison Building, Philadelphia, Pa.

### foundry For Sale or Rent.

A small foundry fully equipped for Grey Iron Castings. Situated on main line of railroad 30 miles from New York. Can give immediate possession Address

" W. W., 712,"

care The Iron Age, New York.

4000 tons 56 lb. steel relaying rails with splice bars located in West Virginia.

1500 tons 60 lb. steel relaying rails with angle bars f.o.b. cars Chicago, East St. Louis or Kansas Cltv.

Two miles 35 lb. steel relaying rails with splice bars, f.o.b. cars Boston.

Several locomotives, standard and narrow gauge.

### ISAAC JOSEPH IRON CO.,

Swift Building, Cincinnati, Ohio.

### STILL PURCHASING IRON AND STEEL SCRAP.

Considering the slump in the market we are always ready to buy for cash.

Relaying Rails always on hand.

M. SAMUEL & SONS,

Kent Ave. and North 2d St., Brooklyn. Washington and Bethune Sts., New York

### FOR SALE. RELAYING RAILS, ETC.

150 tons 56 lb. Steel with Angle Bars. 100 tons 40 lb. Steel with Splices. 150 tons 35 lb. Steel with Splices.

All Southern delivery. New and Second-hand Freight Cars.

MAY & BPALDING, 32 Broadway, New York, and Atlanta, Ga.

### FOR SALE Relaying Rails.

140 tons 35-lb Steel, with splices 2000 tons 40-lb. Steel, with splices. 100 tons 50-lb Steel, with splices. 1500 tons 56-lb. Steel, with angle-bars.

Tidewater delivery.

THE STEEL RAIL SUPPLY CO.,

100 Broadway, New York City.

### RAILS.

Cut to lengths and drilled at our own

Relaying Rails always on hand for quick shipment.

Donaldson & Newton, 421 Chestnut St., Philadelphia, Pa.

### WANTED. Scrap Iron and Steel

Correspondence Solicited. C, Botjer, 405 Newark St., Hoboken, N. J.

### R. S. ARMSTRONG & BRO., IRON BROKERS.

Dealers in old iron and metals; also new and second-hand iron and wood working

ATLANTA, GA.

### SCRAP IRON.

If you want large, heavy pieces of iron or steel scrap reduced to merchantable sizes, address

BIRDSBORO IRON & STEEL BREAKING CO., Ltd., Birdsboro, Pa.

### FOR 20 New Steel Tanks.

Round and Square-Open Tops-All Sizes.

14 in. sides, 5 16 in. bottom, outlets, angle iron around top braced inside, tested, but never used. 8,000 to 18,000 gatlons. Prices on application.

> HENRY A. HITNER'S SONS, Gaul and Sergeant Sts., Philadelphia, Pa. TELEPHONE

# Scrap Iron, Steel & Metals

New Jersey Iron & Metal Co.,

PATERSON, N. J.

Write us when you have Scrap to dispose of or wan to buy.

### Scrap Iron, Steel and Iron Rails

bought and sold by

M. J. & M. BLAKE,

10th Ave. and 15th Street New York City.

Telephone Call, 897 18th St.

JOHN LEONARD.

MICHAEL BLAKE.

### JOHN LEONARD & CO., IRON AND STEEL SCRAP.

IRON AND STEEL RAILS, PIG IRON, ETC. 220 Broadway,

ST. PAUL BUILDING. NEW YORK.

TELEPHONE, 975 CORTLAND

Correspondence Solicited.

### The Morton B. Smith Co., 243 FRONT ST., NEW YORK. OLD METALS

of every description purchased for cash, also

SCRAP IRON and STEEL

In car load lots Correspondence solicited

### Scrap Iron and Old Metals. EDW. O. MILES & CO.,

278 to 298 Marietta St., Atlanta, Ga. CORRESPONDENCE SOLICITED FROM BUYERS AND SELLERS.

### W. H. Perry Co., Providence, R. I.,

BUYERS OF

# SCRAP IRO AND STEEL.

21 Cylinder Boilers, 12 42 in. diameter, 30 ft. long and 12 36 in. diameter, 30 ft. long wrought iron heads, suitable for stack; also two Narrow Gauge Baldwin Locomotives

L. & R. WISTER & CO., 672 Bullitt Bldg., Phila., Pa.

### F. R. Phillips & Sons Co.,

302-3 Harrison Building, Philadelphia.

### Steel Rails, Melting Scrap, Etc.

I buy Iron and Metal Scrap and wish to hear from anybody having cotton ties, pipe, hoops, cast borings, wrought and steel turnings, boilers, cast scrap, etc. Also wrecks from fire, etc.

ROBERT M. CUNLIFFE, 1140-42 Washington Ave., Phila., Pa.

### BERKSHIRE IRON YARD,

M. H. ROGERS, Owner,

### Scrap Iron, Metals, Etc.

221-223-225 Housatonic Ave. BRIDGEPORT, CONN.

# Special Screw Machine Work Wanted.

We are fully equipped with latest appliances for handling this work, especially that required for Bicycle or Automobile manufacture, and are prepared to quote low prices for those interested. Estimates for this class of work gladly furnished on application. Correspondence solicited.

# J. STEVENS ARMS

P. O. Box 46,

CHICOPEE FALLS, MASS.

### FOR SALE.

Two 60-inch by 16 feet Peter Ammerman & Son Boilers, guaranteed 80 pounds pressure. Woodruff & Beach 16 x 86 Engine. The above are all in first-class condition, and can be seen at our Factory.

UNION MANUFACTURING COMPANY, New Britain, Conn.

### Patent For Sale.

All metal wheel patent for sale. Adapted for use in all kinds of vehicles, simple in construction and very durable.

Address "METAL WHEEL,"

Care The Iron Age, New York.

### TO RENT. THIRD LOFT, 25 X 100 FT., COR-NER CHAMBERS AND CHURCH STS.,

in center of Hardware and Bicvcle trade; freight and passenger elevator: steam heat; modern; terms reasonable. AMERICAN WRINGER CO., 99 Chambers Street, New York

### FOUNDRY PLANT

for sale or rent. Large capacity; fully equipped and now in operation. Railroad facilities excellent; two belt and one trunk line. Outside Chicago.

Address "FOUNDRY PLANT," Care The Iron Age, 1205 Fisher Build-ing, Chicago, Ills.

FOR SALE AND PROMPT DELIVERY.

FOR SALE AND PROMPT DELIVERY.

58 lbs. Steel T Rails, El Paso, Tex., delivery.

45 to 48 lbs. Steel T Rails, Washington, D. C., delivery.

56 lbs. Steel T. R. ils for delivery between Buffalo and Chicago on line of Nickel Plate R. R.

60 lbs. Steel T. Rails, Chicago and Kansas City delivery.

61 lbs. Grooved Grider Johnson Steel Rails, Washington, D. C., delivery

83 lbs. Grooved Pennsylvania Steel Girder Rails with bolts, nuts and chairs for Chicago delivery.

530 tons of new 25 to 45 lbs. Steel T Rails, Chicago delivery.

Material subject to inspection at points of shipment.

BLOCK-POLLAK IRON CO..

BLOCK-POLLAK IRON CO., No. 923 Marquette Bldg., Chicago, Ill.

### TWO IRON BRIDGES.

Each of two spans 124 feet, with a draw span of 350 feet and 200 feet, these are railroad bridges, comparatively new; were taken out because too light for new heavy rolling stock. Will make splendid wagon bridges, will sell all together or separate spans; terms to suit,

JEFFERSON IRON CO.,

First Ave. and 27th St., P. O. Box 597, Birmingham, Ala,

### FOR SALE.

18 x 43 Corliss Engine in A1 condition, also 80 H. P. New Ers Gas Engine in excellent condition, which has been running only six months. Both ready for delivery about Oct. 1st. Can be seen during working hours. Apply

THE IRELAND & MATTHEWS MFG. CO., Detroit, Mich

### For Sale, Cheap

One 10 x 24 Corliss Engine. Also one No. 10 Davidson Steam Pump.

M. P. COLEMAN,

77 Haverhill St., - Boston, Mass.

### FLY WHEEL FOR SALE.

A new wheel made in halves, 20 ft. in diameter, 50 inches face, turned for belt, bored 15 inches, weight 45,00t lbs.

This wheel was never used, is all right and will be sold at a bargain.

FRICK CO., Waynesboro, Pa.

### Wanted Agency

by a firm of Iron, Machinery and Hardware Agents, Members of Exchange at Glasgow, Scotland, having valuable connections with buyers of all kinds of Fig Iron, Manufactured Irons, Machinery and Hardware, in Scotland, Ireland and North of England. References given Address "GLASGOW," care The Iron Age. New York.

### PLANER FOR SALE.

36" x 30" x 16 L. W. Pond, in good order. Seen at Holyoke, Mass. Also 400 other new and second-hand machine tools.

> GARVIN MACHINE CO., Spring and Varick Sts., New York.

### John P. Lovell Factory to be Sold.

By F. O. BAILEY & CO. Auctioneers, Portland, Me.

Important Auction Sale of the John P. Lovell Co Factory, Machinery, Tools, etc., at South Portland, Maine.

Co Factory, Machinery, Tools, etc., at South Portland, Maine.

By order of assignees we shall sell on Tuesday. August 14th at 10 a.m., on the premises, the valuable property known as the John P. Lovell factories, situated at South Portland. Me The property consists of a lot of land of about five acres, is situated on Portland Harbor, by electric cars within ten minutes of Portland. On the property is a large brick mill, 226 ft. long by 83 ft with the mented floor; also adjoining mills 150 s 47 and one 90 r 40, two stories, built of wood. Brick mill was built in 1893; wooden mills in 1898. Factory is equipped with au omatic sprinkler system, large and convenient boiler house with 8 horse power boiler and 85 horse power Buck-Eye enzine, both of which are in first-lass condition. Mill is also equipped throughout with shafting and piped for heating This valuable property is finely located, and a desirable property for most any manufacturing business. Immediately following the sale of real estats will be offered the entire flitings, machinery and personal property of the factorier, in lots to suit. The machines and tools are up to date and very desirable. A descriptive catalogue of the personal property of the factorier, in lots to suit. The machines descriptive catalogue of the personal property and material to be sold will be furnished upon application to Nathan Clifford, 57 Exchange 8t. Portland, Me., or the auctioneers. Terms at sale.

### ALABAMA CONSOLIDATED COAL AND IRON COMPANY.

27 William St, New York, July 19th, 1900.
The Board of Directors have this day declared a quarterly dividend of One and three-quarters per cest. on the Preferred Stock of the Company to stockholders of record July 25th, 1900, payable Aug. 1st, 1900.
The transfer books will close July 25th, 1900, at three o'clock P.M., and will reopen Aug. 1st, 1900.

JNO. E. SEARLES, Treasurer.

### WANTED

AT ONCE: one 12 x 12 Norwalk Compressor, in first class condition. Give full particulars.

CHAS. M HAMPSON, Machinery Supply Agent, 514 Cooper Bldg., Denver.

### WANTED.

Some large industry to come and locate at the finest natural harbor on Lake Erie. Have good railroads and can furnish any amount of land very reasonable. Possi-bly our town would pay for the land.

Address "LAKE ERIE," care The Iron Age, New York.

### FOR SALE.

Wholesale and Retail Bardware Rusiness. Longestablished in complete running order an opportunity that seldom comes on the market. Inspection invited. Address owners.
GRISWOLD, MALONEY & CO., Elmira, N. Y.

PANY 18, 61 Furnace Ш

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# Bargains in Machinery and Supplies.

We have the largest plant of its kind earth, occupying over 1,000,000 feet

Our New Machinery Hall, just ompleted, has a floor space 200 x 360 et, and is exclusively devoted to the display of the vast quantity of items in machinery line.

Our facilities for rebuilding ma chinery are unsurpassed. We thoroughly inspect and overhaul all items this line and cover all sales by a binding guarantee.



We are constantly receiving ad-tional items in this line and our diticnal items in this lin stock is changing every day.

We purchased the World's Fair of Chicago, Trans-Mississippi Exposition of Omaha, Neb., the Chicago Po t-Office and Sub-Treasury Buildings and many other noted structures and in-

Our Catalogue No. 78 contains a complete record of all we handle. Write for it to-day.

### WE OFFER THE FOLLOWING ITEMS. SUBJECT TO PRIOR SALE.

WE PURCHASED FROM ARMOUR & CO. OF CHICAGO all the bollers formerly used in their plant. They are all in excellent condition, and have only been taken out because of a change their motive power from steam to electricity. There are 70 in all, 48 of them  $60 \times 18$  and the balance 54 x 16 and  $60 \times 16$ . They are types of the finest boilers ever installed in any plant, and we will thoroughly overhaul and place in as good condition as they were when new.

WE HAVE OTHER BOILERS, a few of which we list, as follows:

list, as follows:

A 108 3 72 x 10 horizontal tubular
A 109 12 64 x 14 horizontal tubular
A 110 5 48 x 16 horizontal tubular
A 111 9 48 x 14 horizontal tubular
A 111 9 48 x 14 horizontal tubular
A 111 9 48 x 15 horizontal tubular
A 113 5 54 x 15 horizontal tubular
A 114 3 63 x 16 horizontal tubular
A 115 2 60 x 14 horizontal tubular
A 116 2 60 x 14 horizontal tubular
A 117 2 66 x 16 horizontal tubular
A 118 1 34 x 10 horizontal tubular
A 119 1 44 x 14 horizontal tubular
A 119 2 63 x 30 cylinder
A 120 1 48 x 28 cylinder
A 120 1 48 x 28 cylinder
A 121 2 30 x 24 cylinder
A 122 1 40 x 20 cylinder
A 122 1 26 x 10 horizontal tubular
A 122 1 26 x 10 horizontal tubular
A 123 1 36 x 2 cylinder
A 124 4 48 x 22 cylinder
A 126 1 32 x 11 horizontal tubular
A 127 36 x 4 cylinder
A 128 1 30 x 5 vertical
A 127 36 x 7 vertical
A 128 1 75 H.P. Hazelton
A 178 1 12 ft. Ames portable
A 130 1 44 x 21-2-fue 14 in.
A 131 3 48 x 28-2-fine 16 in.
A 133 1 marine fire box 9 ft diam., 18 ft.
long
A 134 1 marine fire box 7 ft. diam., 18 ft.

### LOCOMOTIVES, FLAT CARS, &c.

No. A 135 1 25 H. P. Milburn No. A 136 1 24 x 4 upright

No. A 134 1 marine fire box 7 ft. diam., 18 ft.

No. A 137 30 gondola cars, 40,000 lbs. capacity, plain drop bottom, length over all 34 ft., width over all 9 ft. 6 in.

No. A 138 1 Brooks type locomotive, No. 4 cylinder, 16 ft., stroke 26 in.

No. A 139 1 four driver saddle tank shifting locomotive, total weight 60,000 lbs.

No. A 140 1 Porter saddle back locomotive No. 4 No. A 141 6 flat cars, capacity 40,000 lbs., weight 17,000 lbs., 33 ft. x 8½ ft., in first-class condition.

A.H. 47 I Delamater single acting, steam cyl.
4 in,
A.H. 48 I Cameron single acting, steam cyl. 4in,
A.H. 49 I Cameron single acting, steam cyl. 4in,
A.H. 50 I Deane single acting, steam cyl. 4 in,
A.H. 51 I Blakesiee single acting, steam cyl. 3 in,
A.H. 52 I McGowan duplex, steam cyl. 4 in,
A.H. 53 I Davidson single acting, steam cyl.
A.H. 54 I Hooker single acting, steam cyl.
A.H. 55 I Blakesiee single acting, steam cyl. 4 in,
A.H. 56 Gorden & Maxwell duplex, steam cyl. 3½
In. in.
A.H. 57 1 Wells single acting, steam cyl. 3½ in.
A.H. 58 Norwalk single acting, steam cyl. 5 in.
A.H. 60 Crane single acting, steam cyl. 6 in.
A.H. 61 Lechtenberg single acting, steam cyl. 6½ in. chtenberg single acting, steam cyl. 5½ A.H. 62 Lechtenberg single acting, steam cyl. 5½ in.

A.H. 63 I Blake single acting, steam cyl. 6½ in.

A.H. 64 Knowles single acting, steam cyl. 6½ in.

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A.H. 66 I Norwalk single acting, steam cyl. 3½ in.

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A.H. 68 I Hall duplex, steam cyl. 4¼ in.

A.H. 69 I Deane single acting, steam cyl. 4½ in.

A.H. 71 Nisgara single acting, steam cyl. 4½ in.

A.H. 72 I Dayton, single acting, steam cyl. 5¼ in.

A.H. 73 Gold duplex, steam cyl. 3½ in.

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A.H. 75 2 Gall duplex, steam cyl. 3 in,
A.H. 77 1 Gall duplex, steam cyl. 12 in,
A.H. 78 1 Bolland single acting, steam cyl. 6 in,
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5½ in,
A.H. 84 1 Lechtenberg single acting, steam cyl.
64 in, A.H. 84 1 Lechtenberg single acting, steam cyl. 6½ in.
A.H. 85 1 Holly single acting, steam cyl. 5½ in.
A.H. 86 1 Niagara single acting, steam cyl. 4½ in.
A.H. 87 1 Hall duplex, steam cyl. 5 in.
A.H. 89 1 Hooker single acting, steam cyl. 3½ in.
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& Smith
No. A 163 1 bolt header, † to 1 in., made by Oliver Bros.
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# Book Notes

Kelly's Directory.-Kelly's Directories, Limited, London, England, have issued their fourteenth edition, which is the revision for 1900, of their monumental work, "Kelly's Directory," containing lists of the merchants, manufacturers, shippers and buyers of the world. It is a book of over 3500 pages, and not only contains the lists of business people as stated, but also the statistics, weights, money, trade-marks, postal arrangements, tariffs, British shipping lists and other useful informasnipping lists and other useful informa-tion desired by and of special use to those who are conducting an exporting or importing trade. The work is ar-ranged systematically, and in many cases careful classifications enable the use of the book much more conveniently than if mere lists were given without regard to classes of business. The price of the complete work is \$10 to subscribers and \$12.50 to non-subscribers. publishers are also getting up on Engineers' Directory of England, which will be out soon.

The Building Trades Pocket-Book is published by the International Correspondence Schools to meet the demand among architects, engineers, contractors, builders and artisans for a handy reference book on matters pertaining to Structural Design, Masonry, Bricklaying, Carpentering, Joining, Roofing Plastering, Painting, Plumbing, Light ing, Heating and Ventilation. The book is packed with valuable information. rules, data, tables, &c., and contains several hundred good cuts illustrating details of construction, &c. The vol-ume is largely original and treats the subjects simply, the calculations requiring only a knowledge of simple arithmetic. 380 pages, leather bound, for pocket, price.....

Travelers and Business Men generally will read with interest and profit "The Knight of the Grip," which at-tractive book is a reprint of the serial article of this title which appeared in The Iron Age. The hardware traveler is the hero of these sketches, mostly taken from life; they are both serious and amusing and relate to his position in the trade; the companionableness of the traveler; his temptations, his methods and manners, &c. The volume contains 179 pages, is bound in cloth, and sold at ... ...60 cents.

Galvanizing and Tinning.—A book will be issued shortly by the publishers of *The Iron Age*, entitled "Galvanizing and Tinning," devoted to a practical and detailed description of coating with tin and zinc, with a special chapter on tinning gray iron castings, by W. T. Flanders, an expert in this line. These processes have been somewhat secret heretofore on account of the skill of workmanship required and the dearth of information on methods of doing the work. The tools and appliances in use will be described and illustrated.

Factory Accounts.—The English work on factory costs by J. Slater Lewis, entitled "The Commercial Organization of Factories," provides a system for of Factories," provides a system for bringing every account in a factory into monthly, and effecting a general balance. The methods set forth in this work have been extensively employed by American manufacturers with in many cases certain modifications or changes. C. W. Hunt, formerly president of the American Institute of Mechanical Engineers, in an address before the members of the institute strongly recommended this work and the Lewis system very has adopted the Lewis system very largely in the accounts at the works of the C. W. Hunt Company, W. New Brighton, N. Y. This work is sold at...

\$12.00

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Gas Engine Construction.-A practical work on the building of gas engines is just published, entitled "Gas Engine Construction," by Henry V. Parsell and Arthur J. Weed. A one-half horse-pow-er engine is taken as a basis for treatment, the work of construction being described and illustrated progressively and in detail. Working drawings of the various details are given. The volume contains 300 pages, cloth bound, price... \$2.50

Lobben's "Machinists' and Draftsmen's Hand-Book," recently published, is a practical hand-book for young engineers and machinists who are ambitious to fit themselves for more advanced work. It contains information with tables, rules and formulæ such as are required for reference in all mechanical and engineering work, and will be found to be an excellent manual for the student and for the young working mechanic. 432 pages, 12mo, illustrated. Price .....

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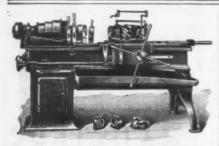


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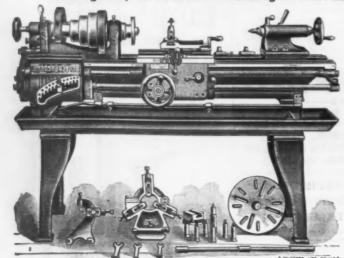
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# THE IRON AGE

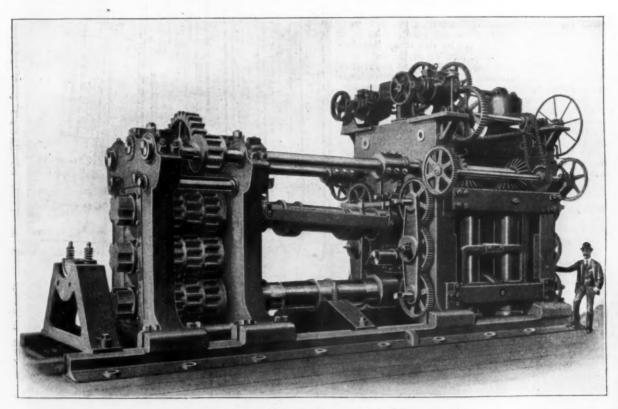
THURSDAY, JULY 26, 1900.

### The Lukens Iron & Steel Company's New Plant.

The Lukens Iron & Steel Company of Coatesville, Pa., enjoy the distinction of having been the first to make boiler plates in America. The plant started by the progenitors of the present company was established as a rolling and slitting mill about 1790, moving to the present location in 1810 and first making boiler plates about 1825. From the first the works have continued in the ownership and continuous successful operation of the family under which they were started. The company under the present name were incorporated in 1890, succeeding the copartnership of Charles Huston & Sons.

They were pioneers in successfully making the flanging of boiler heads a part of the work of the plate mill.

They have always been foremost in making careful tests of structural material, both iron and steel, and the late president of the company, Dr. Charles Huston, was largely instrumental in the formulation of specifications for material adopted by the pioneers in this line, such as the Hartford Steam Boiler Insurance Company, the United States Board of Inspectors of Steam Vessels, various bridge building concerns and others. Their appliances for testing materials are of the most approved character; their testing room is equipped with two Olsen machines, of 100,000 and 200,000 pounds capacity, respectively, with massive milling machines for the rapid preparation of test specimens.



The First Three-High Universal Plate Mill.

THE LUKENS IRON & STEEL COMPANYS NEW PLANT.

The record of this establishment has been one of continued progress. Unlike many other old establishments, the reputation of the past has not been depended upon to secure business, but improvements have been made from time to time, as rendered necessary by the progress of manufacture of plates. The business has been kept closely in line with all the changes that have developed in recent years. These have at times been decidedly radical.

An Enterprising Establishment.

They were among the first boiler plate manufacturers to advocate the use of open hearth steel plates in the construction of boilers, making their plates from slabs purchased from steel manufacturers both in America and Europe. When the supremacy of steel was first being recognized they built their own open hearth steel plant, thus providing themselves with their own stock.

Their connection with the boiler trade has also led them to engage in the specialties required in boiler making. Thus they make quite a large steel product in the shape of patent boiler braces constructed of plate steel and boiler manheads pressed from plate steel. The brace is crimped and formed into shape under hydraulic pressure without welds, making it much stronger than the ordinary brace made of welded bars, and the manhead with its yoke is also hydraulic pressed from plate steel and fitted with a bolt fastened to the manhead by a patent method very simple and effective.

Until this year the company had manufactured sheared plates exclusively, their facilities for this purpose having been of the best character. The largest of their plate trains, installed in the winter of 1890, is of the modern three-high pattern, with rolls 120 inches in length, fitted with automatic tilting tables and served

with a hydraulic crane, enabling one man to draw ingots from any one of the number of heating furnaces and delivering them on the roll feeding tables. This mill has just been enlarged with rolls 134 inches long and 36 inches in diameter, enabling the company to roll plates up to 132 inches in width. These plates are machine straightened while hot.

### The New Plant.

The next step taken by the company, during the season of 1899, was the addition of a large plant composed of a 48-inch universal mill with a new open hearth furnace plant, all complete, and which is this year being supplemented by the addition of a slabbing mill more massive than any at present in operation in the country, making the new plant, which is set forth in the country, parying ground plan illustration, one of the finest in the country. A description of this new plant we give below, taking each portion by itself.

Attention is called, in the first place, to the high trestle running the entire length of the west side of the plant. This trestle is about 25 feet high, and, in connection with its shorter counterpart, shown on the opposite side of the plan, serves the whole plant with coal for boilers and gas producers, as also with all classes of material in bulk, such as limestone, iron ore, sand, &c. The bottoms of the cars only need to be dropped and the material falls by gravitation near the man who needs to

This whole plant, as also the older portion of the plant, is served by a narrow gauge railroad, having a number of little locomotives and a great quantity of iron trucks for the intercommunication of the different parts of the establishment. The old plant, which is not shown in the plan, is connected by this steam narrow gauge railroad through a tunnel passing under the main line of the Philadelphia & Reading Railroad Company line of the Philadelphia & Reading Railroad Company: Wilmington branch), bringing the entire establishment into intimate communication, not only for the transfer of materials in process of manufacture, but also for quickly carrying any rolls, parts of machinery, &c., to the company's own repair shops. These shops are large and very complete, including roll lathes, automatic knife grinding machines, large punching and shearing machines (the latter especially for use in connection with the flanging and boiler specialty departments), as well as standard machine tools. as standard machine tools.

### The Universal Mill.

In adding this department the special features of universal mills in other parts of the country have been carefully studied, with a view of securing a mill that would overcome many difficulties heretofore encoun-tered, and also as many advantages as possible in increased production, fine finish and turning out straight plates of the very great lengths now required. It is in-stalled in its own separate building, which, like all the main buildings of the company added in recent years, is

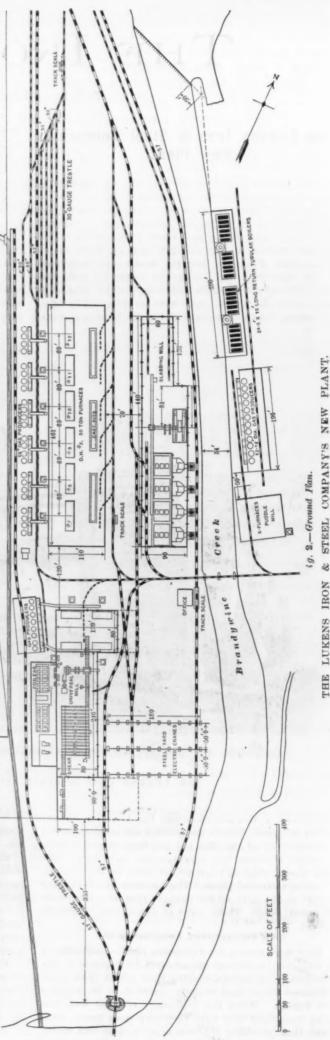
of steel construction, strictly fire proof.

It is arranged, as will be seen by the plan, in "I" form, of 400 feet total length, the center part being 130 feet wide over all, while the end spans are transverse to the main span of the center building. This center span contains roll trains, engines, mill roller tables, run out tables, cooling bed, shear tables and shears, the latter being at the end furthest from the furnaces. The plan

of handling will be seen by the illustration.

The furnace end is supplied with an electric crane of special design, built by the Morgan Engineering Company of Alliance, Ohio. This crane is of very ingenious construction, described hereafter, enabling the operator to charge and draw ingots or slabs from the heating fur-naces and place them on an extension of the mill tables which reaches nearly to the middle of this building. The ingot is then delivered by the roller tables to the mill, where it is handled entirely by power devices back and where it is handled entirely by power devices back and forth through the successive passes in the mill, and the finished plate is delivered hot to the run out tables and cooling bed. It is gradually moved sidewise, when cold, to the roller table feeding the shears, where it is cut to the proper length, passing through the shear opening and falling from the shear upon the rolls at one end of the shipping department. Here it is weighed and carried by a long overhead traveling crane, furnished with several trolleys, which lifts the long plate in such a manner as to prevent bending by its own weight directly into the car for shipment, or into its proper place a hanner as to preven bending by its own weight directly into the car for shipment, or into its proper place in the shipping warehouse. It will be noticed that while there are only four heating furnaces shown in the illustration, provision is made for the extension of this part of the building, as well as the shipping end, in order to accommodate the increased demands.

The 50-foot lean-to at the side of the main span contains the power plant furnishing steam for the universal mill proper, also steam to blow a large battery of producers, both for mill and open hearth furnaces. The



electric power plant, which is also supplied with steam from the same battery, consists of two 150-kw. direct connected generators, which, with the addition of a third of about 250 kw., will furnish electric power and light for the whole of the company's works, including the new slabbing mill. These electric engines are company of the condensate the condensate of the company's works. pound condensing to secure the greatest economy. The boilers are supplied with Roney automatic stokers, economizers and the modern induced draft system, in which the draft is furnished by exhaust fans and which take the place of the customary tall chimney, the chimney in this case reaching merely through the roof.

The mill is driven by a large compound condensing engine, built by Wm. Tod & Co., Youngstown, Ohio, with cylinders 34 inches and 60 inches, respectively, by 5-foot stroke. It is of their latest automatic piston valve type, and is capable of varying speed anywhere from 60 to 120 revolutions per minute. The mill is a radical de-

culty has been encountered in the rolling of universal plates, because of the impossibility of properly proportioning the speed of the vertical rolls to that of the horizontal rolls, owing to the fact that as the metal is reduced in thickness the incoming and outgoing ends have a different rate of speed, and as the direction is reversed each alternate pass, one or both pairs of vertical rolls is obliged to slip to some extent on the metal, causing undue wear of the rolls and their driving mechanism, besides a lot of "back iash," which is very destructive to machinery. In addition to this the utmost precision has to be observed in maintaining the alignment, and, withal, it is very difficult to prevent the rolls on the outgoing side from working hard against one edge of the metal, thus injuring the finish of the edge and causing curves in the plate hard to eliminate.

In this three-high continuous running mill, however, the vertical rolls on the outgoing side are, as will be

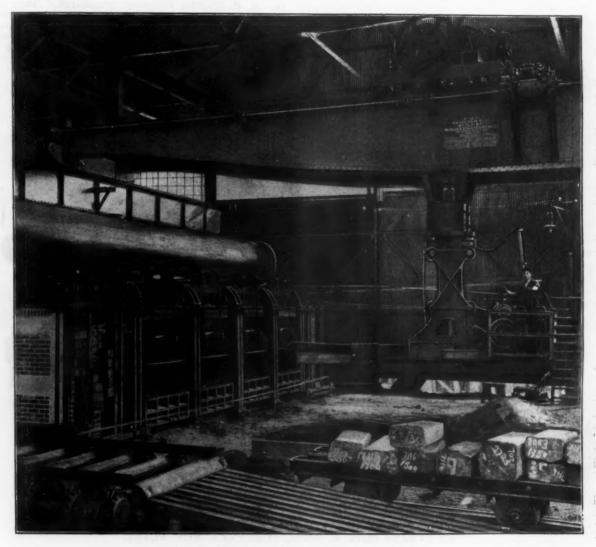


Fig. 3 .- The Morgan Electric Ingot Charging Machine.

### THE LUKENS IRON & STEEL COMPANY'S NEW PLANT.

parture from universal mills heretofore constructed. Such mills, as a rule, have been of the two-high reversing type, while this is the first three-high universal plate mill in which the middle roll is raised and lowered alternately against the top and bottom roll, as in the largest sheared plate mills of modern construction, which have proved so successful both in fine finish and large tquage of product. It was built by the A. Garrison Foun-Company of Pittsburgh from a design furnished by

the Lukens Iron & Steel Company.

In the illustration this mill is shown without the lables. All the rolls are chilled. The horizontal rolls are 28 inches in diameter, with an intermediate roll of 20 inches diameter. The vertical rolls are 18 inches liameter, with 12-inch diameter journals, much stronger han the proportions usually found. These rolls are capable of rolling a plate varying in width anywhere beween 9 inches and 48 inches, with lengths up to 100 feet

In the ordinary two-high reversing mills much diffi-

seen by the illustration, reduced in diameter, thereby clearing the plate, so that there is no danger at this point either of spoiling the plate or of back lash in the machinery. On the entering side the vertical rolls have their full working diameter maintained, which may be properly proportioned to the horizontal rolls so as to avoid any conflict of speed. Thus the plate is operated upon by the vertical rolls on the side passing in, while the vertical rolls on the opposite side clear the plate by reason of their smaller diameter. The hanging guides to the middle roll are mounted in a special manner and supported by an adjustable device at the outer ends, so as to secure a firm bearing. The vertical rolls are provided with a special pull back device and the horizontal rolls with a quick roll relieving appliance, all of which are necessary to the successful operation of the mill. These points, together with the distinctive features of the mill itself, are being covered by suitable patents by C. L. Huston, the inventor. The roll train is supplied with modern hydraulic filt-

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ing tables, the rolls of which, as well as the receiving run out, side transfer and shear tables and the shears themselves, also a large shear some distance up in the yard, are all operated by independent electric motors, the object being to secure power distribution as far as possible by electricity, although the plant is equipped with four systems of power—viz., steam, hydraulic, electric and pneumatic—each being used for the purposes for which it is best fitted. The tables for this mill were built by Henry Aiken, Pittsburgh. The shears are built by Henry Aiken, Pittsburgh. The shears are capable of cutting plates up to 2 inches in thickness by 48 inches in width, cold. The mill is very strongly built, and throughout the whole plant steel castings are largely used to secure immunity from breakage and consequent stoppage of the plant. The gas for the heating furnaces is furnished by a battery of Talbot gas producers conveniently located, as will be seen.

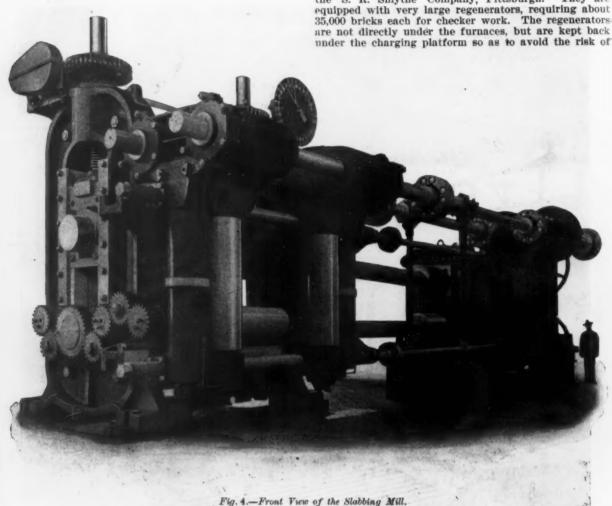
In addition to the electric cranes already mentioned, the main portion of the building over the roll train tables.

the main portion of the building over the roll train tables,

easily withdraw the sliding grip and the gripping arm be raised free. It will be seen that the whole appliance is rotated upon its vertical axis, can be hoisted up and down, moved to and fro upon the length of the bridge, which, with the addition of the traveling of the bridge which, with the addition of the traveling of the bridge itself, secures a practically universal movement, so that the pieces can be grasped at any point from the narrow gauge railroad trucks upon which they are delivered to the building and placed in any part of each furnace, and carried again, when hot, and delivered upon the extension roller tables ready for rolling. Its capacity is 12,000 pounds net weight handled, which, with the liberal provision for strength practiced by the Morgan Company, gives a large margin of safety.

### The New Steel Plant.

The new open hearth plant occupies a building 460feet long by 110 feet wide. In this are located six 50-ton basic open hearth furnaces of the latest design, built by the S. R. Smythe Company, Pittsburgh. They are the S. R. Smythe Company, Pittsburgh. They are equipped with very large regenerators, requiring about 35,000 bricks each for checker work. The regenerators are not directly under the furnaces, but are kept back



THE LUKENS IRON & STEEL COMPANY'S NEW PLANT.

&c., is entirely covered by a 20-ton double trolley travel-ing crane the full span of the building, so that any part the machinery can be quickly removed and replaced in case of breakage or needed repairs.

### The Ingot Charging Machine,

The special ingot charging machine, built by the Moran Engineering Company, above referred to, is worthy of more detailed description. An illustration is given, taken from a photograph. The span of the main overhead bridge is 76 feet 7½ inches and it travels the whole length of the building. The trolley is of novel design and construction, being made up of structural steel and steel castings so as to seems lightness combined with castings so as to secure lightness combined with strength. The gripping arm is maintained at all times in a horizontal position. The ingot or slab is gripped endwise, the movement of the sliding grip being accomplished by an electric motor to suit the varying lengths of pieces, while the actual gripping is done by transmission through a system of levers, so that the weight of the piece itself and of a portion of the cage is utilized to secure a powerful grip. When the load is low-road and roots upon the furnace bottom or the state. ered and rests upon the furnace bottom or the tables this gripping pressure is released so that the motor can

being choked with slag, the furnace proper being supported upon massive fire brick masonry and very strongly bound with steel beams and tie rods. They are fed with a Wellman patent electric charging machine, which moves up and down in front of all the furnaces upon a charging floor substantially supported by a steel under structure, entirely independent of the furnace masonry. The ingots are cast upon a floor at a lower level in the half of the building opposite to that in which the furnaces lie, this portion of the building being covered by five electric traveling cranes, three, of them being of standard type of 10-ton cranes built by Pawling & Harnischfeger of Milwaukee, Wis., the other two being powerful ladle cranes of 75 tons normal capacity each.

built by the Morgan Engineering Company.

The stock for these furnaces is conveyed from the yard to the elevated charging floor by means of the nar-row gauge railroad system, running up an inclined trestle so that the charging boxes which are used in connection with the electric charging crane can be loaded at any convenient point in the yard below, either from the stock piles or from the railroad cars in which material is received, and delivered promptly to the charging floor in front of the furnaces. The producer gas for these furnaces is furnished by 24 Talbot gas producers, arranged in separate batteries along the side of the building under the high coal trestle, providing each furnace with its own battery of four producers, thereby making each furnace, with its producers, a separate unit, a feature which steel makers will appreciate as of special value. All of the producers, like the remainder of the plant, are covered by steel buildings suitably constructed for the protection of the workmen from the weather. A large Weiss condenser, built by the Southwark Foundry & Machine Company, Philadelphia, will take the exhaust steam not

Fig. 6 - The Slabbing Mill Rolls.

nearly 500 tons of steel, the plan of operation being that the ingots shall be received hot from both the old and new open hearth plants, so that comparatively little heating will be required to bring them up to the proper condition for rolling out into slabs suitable for the finshing mills. The lean-to will also have a smaller crane of about 30 feet span running its whole length for the purpose of changing furnace valves, engine parts, &c.

purpose of changing furnace valves, engine parts, &c.

The mill was designed by Julian Kennedy of Pittsburgh, and built by the Morgan Engineering Company. It is practically made of steel throughout, no iron casting being used in any place where stress would come upon it. It is of the universal type and will roll slabs up to 54 inches in width, of any desired thickness up to 24 inches. The main rolls are 34 inches in diameter by 108 inches long, the extra length beyond the 54-inch straight part in the center being composed of standard grooves of 4, 6, 8 and 14 inches for the ready rolling of billets and slabs of these sizes without the use of the universal principle, the vertical rolls being capable of being thrown back past the line of the main housings, so as to leave the full width of the main rolls free.

The vertical rolls are driven by a separate pair of reversing engines through an ingenious arrangement of double worm gear which runs in a bath of oil and is carefully protected from the heat beneath, so as to secure length of life of the gear. The main driving spindle is of a new design, 20 feet long, being hollow forged steel, made by the Bethlehem Steel Company, and fitted with a special universal joint connection to the roll and pinion, which secures freedom from back lash in reversing and at the same time adds great length of life service. The main pinions, as also all the gearings, are made from steel castings, oil tempered, annealed and with machine cut teeth.

The engines were built by McIntosh, Hemphill & Co., Pittsburgh, and are of the reversing type, the main driving engines having cylinders 46 inches in diameter by 60 inches stroke. The auxiliary reversing engines for the independent operation of the vertical rolls are mounted

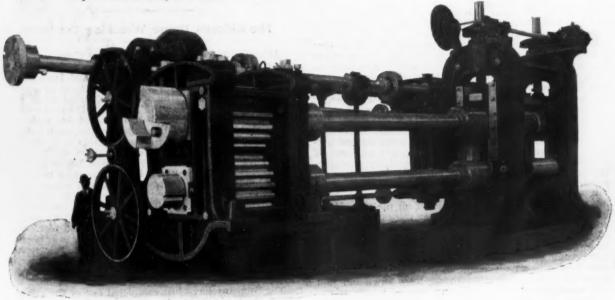


Fig. 5 .- Rear View of the Slabbing Mill.

### THE LUKENS IRON & STEEL COMPANY'S NEW PLANT.

only from the new mills but also from the old mills, making one central condenser plant.

### The Slabbing Mill.

This is conveniently located, as will be seen, so as to be central between the old and the new plants. It is covered by a building 440 feet long and 90 feet wide, composed of a main span 60 feet and a lean-to 30 feet, the lean-to not running quite the full length of the main wilding. This will be covered by electric cranes spanning the 60 feet and running the whole length of the wilding, ordinary three-motor cranes being used at the hearing end and a special five-motor crane at the other and to serve the four heating furnaces, which are of the baking pit type, of special design and large capacity. Such furnace is calculated for a normal charge of 240,-100 pounds, made up of 12 ingots of 20,000 pounds weight each, the whole four furnaces when charged holding

on the same foundation and have cylinders 26 x 30 inches. The mill tables are fitted with hydraulic manipulators and are made up from turned steel rollers, with liberal sized journals, mounted in steel casting bed plates, and, like the shear tables of similar construction, are driven by electric motors through steel gear wheels, which, like those in the mill, are all oil tempered, annealed and machine cut. These tables were built by McGill & Co., Pittsburgh. The adjustment of the main and vertical roll screws is accomplished by means of separate electric motors under the control of a man conveniently situated.

The distance from the center of the mill to the shears is 118 feet, the total length from the first end of the mill tables to the shears being 158 feet. The shears are hydraulic and designed for great strength. They are operated by two vertical steam rams or intensifiers situated alongside of them, and are capable of cutting at one

stroke a hot slab of any size up to 24 inches thick by 48 inches wide. The intensifiers have steam cylinders 65 inches in diameter by 96 inches stroke, the water end being 10 inches in diameter. The battery of boilers will be of about 4000 horse-power capacity, fitted with automatic stokers, &c. The mill will also have producers like those of the open hearth and universal mill departments, of the Talbot type, the boilers and producers both being served with coal from the elevated trestle, in a similar manner to those already described on the opposite side of the

### A Very Extensive Plant.

These additions will put the works of the Lukens Iron & Steel Company close to the top among the largest producers of plates in the country, and in fact in the world. Their plant previous to these acquisitions comworld. Their plant previous to these acquisitions comprised six 35-ton open hearth steel furnaces, a 134-inch plate mill, an 84-inch plate mill, punch and machine shops, &c., and had ranked as one of the leading plate works of the United States. They are now equipped for furnishing very large quantities of universal as well as

sheared plates, whether desired of acid or basic open hearth steel, and can also furnish slabs and billets.

The present officers of the company are as follows: President, A. F. Huston; vice-president, Charles L. Huston; secretary and treasurer, Joseph Humpton.

### American Society of Civil Engineers.

The thirty-second annual meeting of the American The thirty-second annual meeting of the American Society of Civil Engineers was held in London, England, during the first week in July, at the Institution of Civil Engineers, Great George street, Westminster. The proceedings began with an official welcome to the visitors from Sir Douglas Fox, the president of the Institution of Civil Engineers. John F. Wallace, president of the American Society, then delivered his presidential address

The paper of greatest interest, our English contempo raries state, was one read by Robert W. Hunt of Chicago on "Iron and Steel Rails," in which he called attention to the large production of the present time, one mill alone having turned out as much as 58,103 gross tons in a month. This faster work had somewhat altered the character of the steel in rails, but other considerations had not been neglected, and the outward character and finish had been improved to a radical ex-tent. Another point to which Mr. Hunt drew attention was the standardization of rail specifications in America. At one time almost every railway had its own peculiar section; the variations were slight, but sufficient to require the use of special rolls in their manufacture. Holley in 1881 obtained from the 11 Bessemer mills then making rails in the United States drawings of 188 patconsidered standard ones, while 199 patterns 27 different weights per yard were regularly manufac-tured. The American Society of Civil Engineers ap-pointed a committee to consider the question of standard rail sections. This reported in 1893, and it was gratifying that in 1899 quite 75 per cent. of all the rails rolled American rail mills were of what were commercially known as the American Society sections. He next spoke of the satisfactory wearing powers exhibited by rails renewed by the McKenna process, by which rails that had become unfit for further service in main line tracks were heated to a temperature of not more than 1500 depassed through forming rolls, sawn hot and cold straightened. This treatment was no longer an experiment, for nearly 100,000 tons were in use, and so satisfactory did they promise to be as regards wear that one chief engineer, on whose road many were in use, said. "No rail ought to be used at all until it has been renewed." As a steel rail maker and an observer of the wear of rails of many sections and diverse chemical composition, he was led to advocate, first, that work after careful heating of the steel should be continued until the temperature had been much reduced, and, second, that the carbon percentages should be increased in proportion to the increase of rail section, the ultimate amount being of necessity limited by the contained percentage of phosphorus.

The discussion was opened by A. L. Colby, who read a short abstract of a "Critical Review of Foreign Specifications for Steel Rails," which formed a section of an elaborate paper to be read in Paris the following week. In view of the export of rails from America to British colonies, he spoke of the specifications for these as compared with general American practice, pointing out that some of the requirements were, in his opinion, superfluous and merely tended to increase prices unsuperfluous and merely tended to increase prices un-necessarily. Sir Lowthian Bell gave some account of observations and experiments that had been carried out on rails supplied to the Northeastern Railway Company.

### American Engineers in Berlin.

Berlin, July 18, 1900.—The banquet given at the Zoological Garden this evening by the firm of Ludwig Loewe & Co., rifle and gun makers, to the visiting delegation of mechanical and civil engineers, who arrived yesterday, took on the character of a fraternization of Americans, Germans and English as the leaders of the world's progress. The principal speakers were from the United States, Germany, England and Australia.

Commerzienrath Isidor Loewe, president of the firm who made the first address, emphasized the indebtedness of German industry and of his own firm to the Ameri cans. C. H. Morgan, president of the American Society of Mechanical Engineers, in his response, expressed as-tonishment at the extent to which American ideas had been introduced into Germany by Ludwig Loewe & Co adding: "We must do something in America to meet this new competition."

Mr. Dickle of the Union Iron Works, San Francisco. Mr. Dickle of the Union Iron Works, San Francisco, emphasized the humanitarian care shown by Ludwig Loewe & Co. for their workmen, in which respect he said the Germans were ahead of America. "We in America." remarked Mr. Dickie, "have forgotten the man, the soul, in order to promote business."

John B. Jackson, secretary of the United States Embassy, said he spoke from the standpoint of one whose task it was to help promote friendly relations between Germany and the United States. He thanked the Loewe

Germany and the United States. He thanked the Loewe company heartily for having done so much in the same

Speeches also were made by Thomas Irons of Australia, and by Professor Reuleaux, who came into prominence at the time of the Centennial Exhibition in Philadelphia because of his reference to the German exhibit there as "cheap and shabby."

The Loewe company have arranged a fine three days'

programme for their guests, who number about 60. To-day the Americans visited the Loewe Tool Works, and subsequently the small arms works. The former con-tained \$200,000 worth of American machinery, purchased in 1898. At the small arms works the visitors were shown a new army pistol firing a hundred shots a minute.

### The Chicago House Wrecking Company.

Attention has been called at various times to the peculiar enterprise conducted by the Chicago House Wrecking Company, West Thirty-fifth and Iron streets. Chicago. The company conduct a business of such a character that it is worthy of more extended notice than has thus far been given it. They not only carry on such work as is indicated by their title, but are also very heavy dealers in all kinds of merchandise and material from all sorts of realizing sales. In this way they are very extensive dealers in new as well as old material. They have grown from quite a modest beginning until they now claim to have the largest depot in the for all kinds of merchandise and material, which is pur-chased in such manner that they are able to offer it at remarkably low prices. They have just completed a machinery hall as an addition to their large warehouse, which occupies a ground space of 200 x 360 feet. This is undoubtedly one of the largest structures ever devoted to the exclusive display of machinery. They have also introduced extensive facilities for rebuilding second-hand machinery, and claim that these facilities are unsurpassed by any other establishment of the kind.

The company have just completed one of the greatest machinery purchases in the West—namely, the complete boller outfit formerly used by Armour & Co. of Chicago. This firm, who recently installed a new plant, found it expedient to replace their bollers by others of a larger type and thus sold the old boilers to the Chicago House Wrecking Company. This purchase gives them possession of some of the finest horizontal tubular boilers ever made. They consist in all of about 70 boilers, whos sizes are 60 inches by 18 feet, 60 inches by 16 feet, and 5

inches by 16 feet.

The company issue catalogues of the merchandis they have on hand, which present a wonderfully varied assortment of goods rufining into all classes of manufactures. tured products.

Should the vote now being taken among officials of the Amalgamated Association to give the committee discretionary power to change the basis of the scale be car ried, it is probable a conference with the manufacturer will be called at once. However, there does not seem to be an active desire on the part of either the officials of the Amalgamated Association or the manufacturerthemselves to have the puddling and bar iron scales arranged, so that it is possible another conference will not be held until the first week in August.

### THE GERMAN MACHINE TOOL MARKET.

### Present Conditions and Future Prospects.

EDITORIAL CORRESPONDENCE.

Berlin, June 28, 1900.—The fact is acknowledged on all sides that the extraordinary boom in Germany is over. With us a collapsed boom would conjure up the specter of bad times, the fear of years of famine after months of feast. The Germans, although they have had the experience of short lived periods of industrial activity, face the future with confidence. They claim that their present universal prosperity is the creation of much deeper influences than those governing an industrial revival with us, that it is the result of their present position as a world power, attained through their high rank as an educated, industrious, frugal, earnest and thoughtful people, who have first learned during the last 30 years to struggle for and to enjoy the fruits of prosperity. The latent energies of the nation have been diverted into productive channels, and their enterprise is tempered with the prudence and foresight bred by centuries of straitened circumstances. They feel confident that the work of internal improvement and of expansion abroad has too powerful a headway to be checked now or in the early future by accidental causes; that their progress is backed with means far beyond those ever before at their command. Even if it were not fully justified, the existence of so universal a feeling of confidence would, in itself, be a powerful factor in behalf of the movement until a succession of startling shocks saps its strength. Of such there is not the slightest indication, and the quieting down along the whole line industrially is accepted rather as a welcome resting spell to precede renewed conquests than as a warning to trim ship all around.

Under the circumstances the machinery business in Germany has shown unmistakable evidence of slackening, but it is not believed that this portends so serious a falling off in the demand that disastrous consequences must result either for the German builders themselves or for the importers of American machinery. branches the German-works are still so well employed that they cannot touch orders for delivery under a year, this being particularly the case with the locomotive builders and the engine makers. Still, generally speaking, in machine tools the current requirements are light, and your correspondent has heard of cases in which some makers of heavy tools are working for stock. The majority of importers acknowledge that new business has been very light lately, and there is good reason for the belief that for this reason they have been forced to cancel orders heavily with their principals in the United States.

The extraordinary development of the German import trade in American machinery was due to a series of causes, which it is well to study in order to arrive at some conclusions as to the future. Numerical expression of its magnitude is not readily arrived at, because German firms handle considerable American machinery for neighboring countries, notably Russia, Austria-Hungary, Italy and Switzerland. Much of this machinery merely goes through Germany in transit, while other quantities are transhipped from the free harbor of Hamburg. The statistics, therefore, do not furnish a trustworthy guide, and besides the figures are reported in quantity only, and not in values. Our own export statistics, of course, fail to give Germany credit, as a purchaser, for machinery sent via Belgium and Dutch ports. However, it is hardly necessary to dwell upon the magnitude of the business, since it is a well-known fact, frequently alluded to in the columns of The Iron Age, that in the dull years of 1895 to 1898 the export orders amounted to

anywhere from 15 to 60 per cent, of the total output of a very large number of American shops.  $\,$ 

The demand for Germany proper has been very large. In 1898 and in 1899 orders went to the United States for certain classes of machinery, notably heavy machine tools, simply because the German makers were so full of work that they could not make reasonable deliveries. The events of the past few months make it pretty certain that business of this character need no longer be expected. Conditions of a different character, too, tell against its continuance-a fact thoroughly well recognized by American makers. The result has been that such interests as the Niles met them by starting a German shop, the completion of which will further narrow down the possibilities of imports into Germany of Amerlean built machinery of a certain type. But after all, this has only been a casual business, made possible by the overcrowding of the German shops, now a phase which has passed away.

It is in the medium and small standard tools and in special appliances that the future lies of the American makers and their allies, the German importers. Those who have studied the situation claim that, broadly speaking, a large demand is in sight, since the progressive Germans more and more realize the necessity for remodeling their equipment and their methods along American lines, modeled and modified to suit their local requirements. The point is made that while that demand may halt for a time, the movement in that direction is irresistible, and its magnitude is usually underestimated rather than overrated.

The question is, who shall supply that demand, and this is what is perplexing even the best informed. It involves some very serious considerations of tariff policy. It involves the whole great problem of methods and cost of manufacture on both sides of the Atlantic. It is affected by the influences which grow out of national characteristics. It brings up the question to what extent American manufacturers, or German importers, or both, must sacrifice a part of their profits, to meet imitations, or to struggle against transplanted industries.

### The Agitation for Higher Duties.

We shall in the next few years hear much of the agitation now actively started in Germany to impose higher duties on American machinery. At present the duty is really nominal, amounting as it does to 3 marks per 100 kg., including packing, which figures about 20 per cent. in weight, and carries the duty to, say, 0.4 cent per pound. The German manufacturers of machinery demand a revision, their chief argument being that liberality is unwise and unfair in relations with a country which, like the United States, imposes upon German machinery a duty of 45 per cent., and which meets the products of German industries generally with practically prohibitory rates.

As yet no definite proposals have been discussed, nor are they likely to be brought forward until the fall, but the opinion is freely and generally expressed that as the situation now stands an increase in the duties is more than probable. Under existing treaties, however, any new rates which may be established cannot go into effect until January 1, 1903, when the treaties negotiated under the Caprivi ministry shall have expired. Some of the importers of American machinery view the future with grave concern; others argue that very high rates are not likely, and that what advance is established will have to be taken from the American selling price. One merchant urges that the Germans would simply be checking their own progress by rendering the best equipment

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more expensive to themselves, and added that it is a curious phenomenon that among the most ardent advocates of a higher duty on American machinery are the owners of shops who have been pioneers and leaders in

the adoption of American machine tools.

There can be no doubt that the existence of high rates of duly in our own country is a powerful argument for those who, in Germany, insist upon retaliation as a pre-text for furthering their own interests. Those who are identified with the commerce between the two countries urge, as a wise measure, that the force of this argument be broken by concessions, by lowering of our own duties. These, they claim, have manifestly ceased to be operative, since we are exporters, and are safe against any invasion of our home markets. While this may be true, it appears very doubtful whether concessions in this direction, obviously of little efficacy, would really change the course of action of the Germans. They realize that the development of the American machinery business has placed in their hands another means of coercion, which apparently they are inclined to use to their best advantage, the agricultural interests having another welcome ally in their crusade of exclusion against American food products. It is very doubtful whether a tariff war or threats of war will accomplish what a gradual but steady change in public opinion in the United States will surely bring about in the end. The Germans have shown a somewhat truculent spirit, which may retard rather than hasten a mutually satisthey claim, have manifestly ceased to be These, which may retard rather than hasten a mutually satisfactory understanding.

While some American machinery has been imported into Germany in recent years from necessity, the great bulk of the very large business has been done solely on the merits of the articles, and in spite of some adverse circumstances. It is admitted, and it is quite clear from even superficial observation, that it has been very re-munerative to the dealers handling the machinery. They deserve and are entitled to their success, since they over-came general skepticism in the United States, and did valiant work among consumers. At a time when business was at low ebb in the United States, they provided a great amount of welcome work. But there have been attracted into the business a considerable number of new firms, and competition has become keen and active.

### Mistakes Made.

As was only natural, some mistakes were made in the rush of rapidly expanding trade, and machines were placed which were not always suitable for the special requirements. At times, apparently an excess of zeal in promising results led to disappointment. Sometimes partial failure was due to the fact also that the buyers themselves did not follow instructions. In other cases, the material which goes into German shops is not up to our American standards. Thus the castings often are so hard that the capacity of the metal working tools is cut down far below the standard attained readily in the United States

It is only fair to state, too, that slovenly work and poor materials have characterized the product of some of the American machine shops who have sold for export. Then, too, there is well grounded complaint not only that deliveries have been irregular and unsatisfac-

only that deriveries have been fregular and unsatisfactory, but that more remunerative orders for the home market have crowded aside earlier export orders.

All these occurrences have somewhat dampened the ardor for American tools in certain quarters, but the general result of their introduction has been exceedingly favorable to their further use. In fact, it hardly needs more than the announcement that a new article is American to secure for it careful attention. Hostility, due to intensely conservative spirit, is rarely met

The Germans acknowledge, with some limitations, the superior merit of American machinery in general American machine tools in particular. But they are determined to assert their equality in those lines in which they claim even now to be doing as well as we, and they are resolute in their purpose to catch up with us in branches in which they still, reluctantly, acknowledge inferiority. They will not rest until they produce home what they are now forced to buy

spirit which Americans cannot help but admire.

One step on this direction is the slavish copying of
American machinery down to the most insignificant de-American machinery down to the most insignificant detail. This is a phase of competition with American makers of which much is made, and which is brought to the attention of every visitor. It is an evidence of weakness. It may be temporarily annoying, but the imitator cannot become seriously dangerous at any time. It is the producer who seizes the spirit of the progress of others and develops along independent, original lines who needs watching, and it is in this direction that the Germans have shown a good deal of talent Germans have shown a good deal of talent.

Competitors (lassified.

There will be as factors in the German machinery market the following

1. The imitators of American machines, who copy slavishly and market a usually inferior tool at a cut

2. Those German builders who, while following American lines in a general way, develop independently and make adaptations to meet local and special require These manufacture in modern plants, splendidly equipped.

3. German works which are to a less or greater extent branch shops of American concerns, with whom they have intimate relations as to interchange of im-

provements and practice.

German works who build under contract or under

or the other line. or the other line.

### Elements of Cost.

One hears somewhat contradictory evidence on questions bearing on cost, and yet each may be justified by the facts. Apparently, no sweeping generalization is possible.

So far as the materials are concerned-and they play a variously important rôle—they cost more money in Germany, and it looks as though that will be an advantage usually on the side of American makers. Whether future tariff legislation in Germany will more

than offset this remains to be seen.

It is, therefore, chiefly a question of labor, and on this point diametrically opposite opinions are expressed. To some extent these become reconciled when locality is taken into consideration. Such a labor market as Berlin will give very different results from those based upon onditions prevailing in Central and Southern Germany. One hears of instances in which costs on the same machine are very much lower in Germany than in the United States, and these cases are quoted to prove that the labor cost per unit of produce is lower in the former country.

Closely connected with this is the vexed question of the relative efficiency of the labor in both countries. This is aside from the influence of the unions, which in the case of the foundries seems to throw the balance toward our side. The German molders have a very strong organization, which virtually dictates to German producers the price at which each particular casting shall be made. In the machine shops such conditions

do not prevail.

American engineers who have had occasion to watch the work of German labor on American tools in shops working under American systems claim that the German machinist does not turn out the same amount of work by any means. One close observer places the efficiency at only 60 per cent. of that of the American mechanic. This, it is explained, is partly a matter of management. The relations between the engineer or owner and his foreman, and between the latter and the me-chanics, are very different in Germany from those pre-vailing with us. The conceptions of discipline in Germany would not tolerate a suggestion from a workman as to improvements or a discussion of methods and appliances. It appears that no initiative can come from such a quarter, and that the opportunities for advance-ment so stimulating to ambition are cut off. Conscientious work and unquestioning obedience to instructions constitute the first claims to consideration for the German mechanic.

The statement is made that there is little discrimination shown in putting labor upon machines. A finish is given to parts in which great accuracy is not imperative, and in that way work is wasted, a course possibly pur-

sued for the sake of its moral effect upon the men.

The Germans claim that the only field in which American makers can hope long to hold a share of their market is in those standard tools, medium and small in size, in which the production of a large number simultane-ously is possible, and in which there is a large market in the United States as well. By production in quantity, with a surplus for export, we may be in a position to crowd down cost to figures unattainable on the Continent. They claim that we must carry specializing to an extent which again narrows our market, because the consumer in Germany himself does a character of work which limits his use for a tool built to carry on uninter-ruptedly a narrow range of operation. In other words, the German buyer of machine tools cannot keep a spe-cial American tool busy steadily enough to make it pay

In this particular field of producing standard tools Germany is itself making great strides. Conspicuous among the firms who are manufacturing along American lines are Ludwig, Loewe & Co. of Berlin, who have a splendid plant completed within a comparatively short time, and who have established a London office to market a part of their product in countries outside of Germany. The works are controlled by Ludwig Loewe, one of the great German capitalists in industrial undertakings, who is conspicuously associated with a large rifle making concern, a large electrical manufacturing plant and with a number of other enterprises.

and with a number of other enterprises.

Established under different auspices is the Deutsche Garvin Maschinen Gesellschaft of Berlin, a concern having close affiliations with the Garvin Machine Company, and in which German capital is principally interested. This company are building large works, which it is expected will be completed during the current year.

it is expected will be completed during the current year.

That competition from such sources cannot fail to make its impression is beyond a doubt. The importers, however, unite in the expression of the opinion that in spite of all the influences at work to narrow the opportunities for American makers of machine tools on the Continents a good field will remain

Continent, a good field will remain.

If the energy, ample capital and thorough system of the leading machinery importing firms in Germany can hold and develop the trade for American makers, it will be accomplished. The warehouses of the leading concerns, their office equipment and their business systems are models of their kind.

C. E.

### Three Failures in the Iron Trade.

James R. Floyd's Sons, a corporation engaged in business as iron founders at 539 West Twentieth street, New York; Hugh W. Adams & Co., pig iron dealers, at 15 Beekman street, New York, and the Randolph Iron Company of Brooklyn, assigned on the 20th inst. The failure of Hugh W. Adams & Co. was precipitated by that of the other two, who were unable to make payments when called upon to do so.

The first of the assignments recorded was that of the Floyds. Michael J. Drummond was named as assignee. The business was established in 1856 by Herring & Floyd, who dissolved in 1881. James R. Floyd continued alone until 1888, when two of his sons became partners. They dissolved in October, 1897, and the business was continued by three of the sons until they were succeeded by the present corporation on August 30, 1899, formed under New York laws, with a capital stock of \$50,000. Their attorneys state that the liabilities are about \$120,000 and nominal assets from \$120,000 to \$130,000. The failure was attributed to competition of other concerns outside of New York, who had cheaper rents and employed cheaper help. Notes were coming due which they could not meet and to protect all creditors they made an assignment.

Hugh W. Adams, doing business as Hugh W. Adams & Co., assigned to William G. McAdoo. Mr. Adams has been in business in New York for the past 25 years. He made an assignment on November 11, 1884, but subsequently resumed business and sold pig iron for both Northern and Southern furnace companies. The assignee says that no statement of the condition of the affairs of Adams & Co. can be made until he has carefully examined the books and until the assignees of the two other corporations which failed make a report. These examinations are now in progress.

examinations are now in progress.

The Randolph Iron Company, iron founders, operating one of the largest institutions of the kind in Brooklyn, and located at Dupont and Franklin streets, in the Williamsburg section, assigned to Robert L. Morrell, The cause of the failure is given as bad business. A statement issued by the assignee, after saying that all of the employees will be paid in a few days, intimates that the business is to be resumed.

A Projected Australasian Iron Works.—Advices from Melbourne, Australia, state that the Lal Lal district of Victoria has recently been exploited by a Melbourne syndicate and experiments with the iron ore obtained there show a high percentage of mineral. The syndicate have already secured rights to an extensive area of the district, and will immediately erect smelting works in the town of Geelong, some 40 miles from Melbourne. Experts declare the quality of the iron made from this ore to be equal to the best imported Swedish, and developments are being watched with interest. The company are to be known as the Federal Iron Works.

The Richmond Locomotive & Machine Works, Richmond, Va., will soon be operated throughout by electricity. This was formally settled recently when the contract was closed by which the Virginia Electrical & Development Company are to furnish the locomotive works with electrical heating and power. It is expected that by January the entire plant of the locomotive works will be in operation by electric power and that the last of the old engines will be out.

### The Italian Reciprocity Treaty.

Washington, D. C., July 24, 1900.—The State Department on the 19th inst. made public the President's proclamation promulgating a reciprocity treaty between the United States and Italy negotiated by Special Commissioner Kasson and Baron Fava, the Italian Ambassador at Washington. Like the German treaty and that with Portugal, made public several weeks ago, and the convention with France, concluded in 1898, the Italian treaty has been negotiated under Section 3 of the Dingley act, and therefore does not require to be ratified by Congress. After negotiation it was, however, subject to approval by the Italian Parliament, but the original draft of the treaty having been signed at Washington February 8, 1900, in the interval the Italian Government has acted upon it, and the new convention is therefore the law of the land, being the fourth treaty of this character to go into effect since the passage of the Dingley act.

The concessions made to Italy in the new treaty are

The concessions made to Italy in the new treaty are necessarily limited to the articles specified in Section 3 of the Dingley act as those upon which the President may grant reduced duties, including argols (the base of cream of tartar), brandies, still wines, vermuth, paintings, statuary, &c., and, as in the case of the German treaty, the interests of the California wine growers have been potent enough to prevent the incorporation of champagne in the conventional list.

The American products which under the new treaty may be imported into Italy at reciprocity rates of duty include a very considerable list, in which the items of interest to the readers of *The Iron Age* embrace agricultural machinery and detached parts, scientific instruments, dynamo electric machines and sewing machines.

For the purpose of negotiating reciprocal trade agreements the Italian Government maintains two sets of tariffs, one known as the general tariff and the other as the conventional, or reciprocity, tariff. While these rates are identical as to many items, yet in such cases the granting of the conventional rate is considered to be a pledge of the maintenance of that rate for the period of the treaty without regard to changes that might be made in the general tariff by governmental edict or customs regulation.

might be made in the general tarin by governmental edict or customs regulation.

Under the new treaty agricultural machinery pays a duty of 9 lire, or \$1.74, per quintal (220 pounds), this rate being identical in both general and conventional tariffs, the concession to the United States on this item amounting merely to a pledge that it shall remain in force during the life of the treaty. Detached parts of agricultural machinery composed of cast iron will pay 10 lire, or \$1.93, per quintal, while such parts of other iron or steel will pay 11 lire, or \$2.12, per quintal. These rates are the same under both general and conventional tariffs.

The reciprocity rate of duty on scientific instruments of copper, bronze, brass or steel, provided with telescopes, microscopes, disks or graduated circles, &c., is 30 lire, or \$5.79, per quintal, a very important reduction from the general tariff, which is 125 lire, or \$24.12. Scientific instruments not provided with optical devices, nor with graduated disks or circles, will also pay 30 lire, or \$5.79, per quintal, instead of 75 lire, or \$14.48, which is the general tariff. On all kinds of scientific instruments in the construction of which iron clearly predominates the conventional duty is 30 lire, or \$5.79, per quintal, which in this case is also the general tariff on this class of goods.

On dynamo electric machines the weight of which exceeds 2204 pounds the reciprocity treaty provides a rate of 16 lire, or \$3.09, per quintal, in place of the general tariff of 30 lire, or \$5.79. On dynamos weighing 2204 pounds or less the reciprocity rate is 25 lire, or \$4.83, per quintal, in place of the general tariff of 30 lire, or \$5.79. Detached parts of dynamos will pay 25 lire, or \$4.83, under the treaty, instead of 30 lire, or \$5.79, which is the general tariff.

Sewing machines, with stands, will pay the conventional rate of 25 lire, or \$4.83, per quintal, which is the same as the general tariff rate, and hand machines will pay 30 lire, or \$5.79, per quintal, which is also identical with the general tariff.

Brieny stated, therefore, American manufacturers secure reductions in the duties now paid on dynamos and scientific instruments, and a pledge that the present rates on agricultural machinery and detached parts and on sewing machines will be maintained while the treaty is in force.

Under the terms of the treaty the agreements contained therein are binding upon both powers until December 31, 1903, and thereafter for one year, "or until the time when one of the high contracting parties shall have given notice to the other of its intention to arrest the operation thereof."

W. L. C.

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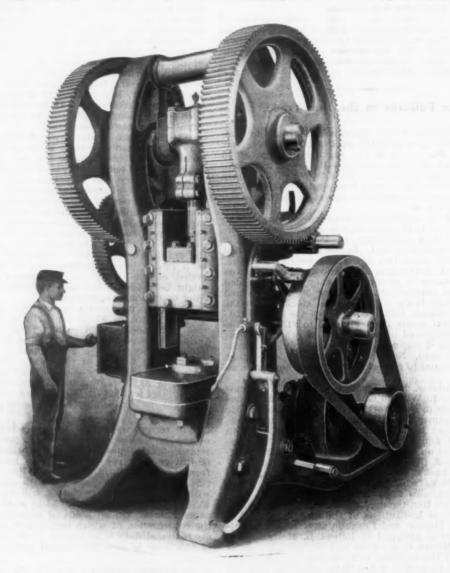
### Ferracute Press for Heavy Cartridge Drawing.

The press shown in the accompanying engraving is one recently made by the Ferracute Machine Company, Bridgeton, N. J., from the designs of Oberlin Smith, for the Navy Yard at Washington, D. C. This machine is intended for heavy cartridge case drawing, for rapid fire navy guns, and is to be supplementary to the presses shown in *The Iron Age* of May 24, 1900, which were sent to the Navy Yard last year. None of the cutting or drawing presses in this former shipment was capable of giving a ram pressure of over 84 tons, while the specifications of the present machine called for a pressure of from 200 to 250 tons. As a matter of fact the machine has been tested for 350 tons, by smashing blocks of wrought iron having an aggregate cross section of the

automatic stop clutch to one which works entirely by hand. A new feature is the balancing of the clutch lever by a sliding weight, which helps to throw the clutch in gear when in forward position, and which, when pushed back, balances the lever so that it works easily in both directions by hand. When set for hand working the treadle can be fastened out of the way by a special latch. This, however, can be released so that the machine will start by a depression of the treadle, but may be stopped by hand.

As shown, this machine is driven by a 20 horse-power. 220-volt individual motor, which is mounted upon a swinging shelf at the rear, with lifting screws for tight ening the belt. The proper rheostat and throw out switch are also provided, duly mounted upon the left hand column.

As the specifications for this press called for ample belt



FERRACUTE PRESS FOR HEAVY CARTRIDGE DRAWING.

proper number of inches. Such work it did with perfect ease, and without using a belt of full width.

This press has stamped upon it the shop number 5000, it happening to be the five-thousandth press built by the company. Its total weight is about 19 tons; its hight is 11 feet 6 inches; its depth and width of base on floor are 5 feet 4 inches each. The columns are of solid metal 10 x 18 inches, and the whole construction, as will be seen, is compact and massive.

seen, is compact and massive.

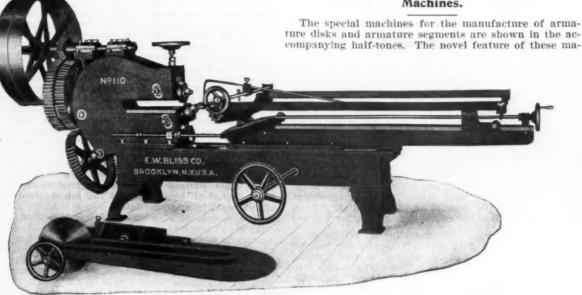
The stroke of the present machine is 10 inches, but it is so arranged, by allowing ample hights, that it can be varied in future machines anywhere from 1 to 24 inches. The adjustment of the pitman is 10 inches, thus giving a very great range in regard to ram hights to suit various dies, &c. As will be seen by the pictures, the shaft is driven from both ends, by twin cut gears each 60 x 9 inches. This, of course, lessens the torsion on each end of the shaft to half the amount incurred with the usual single gear drive. The train of double gearing is so arranged as to give a ratio of 50 to 1 between the fly wheel and the main shaft, this fly wheel being 40 x 7 inches, and being arranged to drive the press by a new friction clutch which can be changed in a few moments from a strictly

power with a moderately loose belt, 6 or 7 inches wide, the gearing and fly wheel were arranged in accordance therewith, plenty of stored power in the wheels being provided for the critical moment of doing the work. The designer did not intend to be caught napping on this point, and somewhat surprised the experts inspecting the machine by reducing the 6-inch belt successively to 3 2 and 1 inch, the latter running the machine while a pressure test of 315 tons was taking place. A further test was then made, using for a belt a piece of ordinary cotton tape ¾-inch wide by 0.013 inch thick. The surprising part of the performance was that such a bel should keep in continuous motion the complete heavy train of gearing, with its clutch, fly wheel, shaft, pitmat and ram, but such was the case. A pressure test of 20 tons took place while the tape was putting in its work without throwing it off the pulleys.

The American Steel Roofing Company, Cincinnati, an nounce the consolidation of the American Steel Roofing Company and the American Rolling Mill Company. The same management will be continued with the addition of

everal experienced men, who are experts in their special ines. They are building a new factory at Middletown, thio, immediately adjoining the steel and sheet mills of American Rolling Mill Company, and the entire products for every requirement of their business, assuring them of the best qualities in the market and promptness in delivery.

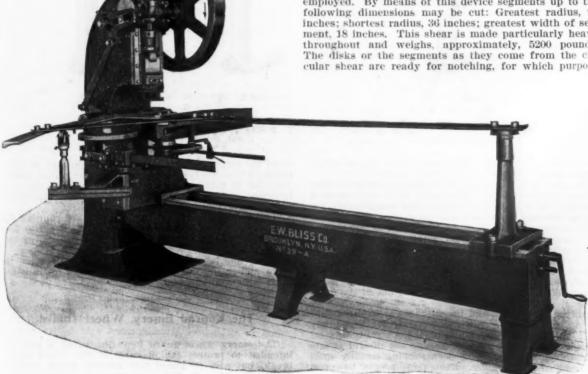
## The Bliss Armature Disk and Segment Machines.



THE BLISS DISK CUTTING SHEAR.

works when completed will form one of the most modern and best equipped plants in the country. Middletown, Ohio, is about an hour's ride from Cincinnati, with splendid railroad facilities in all directions. tinue to manufacture all present lines, making a special-

chines is the device for making them equally well adapted for cutting and notching the segments used in the construction of the largest generators, as well as for the construction of the largest generators, as well as for the disks of smaller diameters. The circular or circle cutting shear, Fig. 1, is adapted for cutting both the in-side and outside of circles or rings of from 14 inches to 72 inches in diameter, and up to No. 10 Stubs' gauge in thickness. For circles of the dimensions given it is nec-essary to insert the plain clamping arm, shown on the floor in the illustration. When segments are required the special devices in position for elements the sheet is essary to insert the plain clamping arm, shown on the floor in the iliustration. When segments are required the special device in position for clamping the sheet is employed. By means of this device segments up to the following dimensions may be cut: Greatest radius, 96 inches; shortest radius, 36 inches; greatest width of segment, 18 inches. This shear is made particularly heavy throughout and weighs, approximately, 5200 pounds. The disks or the segments as they come from the circular shear are ready for notching, for which purpose



THE BLISS DISK NOTCHING PRESS.

of heavy corrugated and flat sheets of extra widths d lengths, and will also furnish all their standard ands of roofing, polygon pipe and other styles of concern pipe and caves trough. They will thus be in betposition to furnish their customers with a full line of the notching press, Fig. 2, was designed. As illustrated this press is adapted for notching segments of the same radius as the shear. When the segment has been notched the press will automatically stop. To notch complete disks of from 4 to 60 inches in diameter it is only nec-

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of the week of the

essary to remove the special holder and place in its position the regular clamping arm (not shown) that is supplied with the press. The weight of this press is about 3900 pounds.

These two machines have recently been built by the E. W. Bliss Company, 11 Adams street, Brooklyn, N. Y., for a large manufacturer of dynamos and motors in England.

## Central Pennsylvania News.

HARRISBURG, PA., July 23, 1900.-The clouds are not so lowering as they were a few weeks ago and conditions have improved materially in several directions. Those who talk freely of the situation say unreservedly that there has been a change for the better, and that, while it is not a marked improvement, it is still in the direc-tion of better things. There is not that hesitation which it is not a marked improvement, it is still in the direction of better things. There is not that hesitation which has been the chief characteristic of the market during the last three months. Buyers of iron and steel and their products are placing orders, and while there is no occasion to enthuse over what is only a natural revival from unnatural conditions, the outlook is not so dark. Some manufacturers with whom your correspondent has talked feel quite hopeful of the immediate future, and they believe that the end of the hot weather will see

Hudson River Railroad was shipped. Until further notice the Bessemer, rail and No. 1 blooming mills and other departments will close down Saturday morning for the purpose of giving the men a longer respite each week. Considering the weather conditions the output for the week was large. There is no change in the conditions at the frog, switch and signal, and the bridge and construction departments. Both are excessively crowded with orders and running day and night.

crowded with orders and running day and night.

John W. Brown, formerly proprietor of the foundry on East State street, this city, died last week.

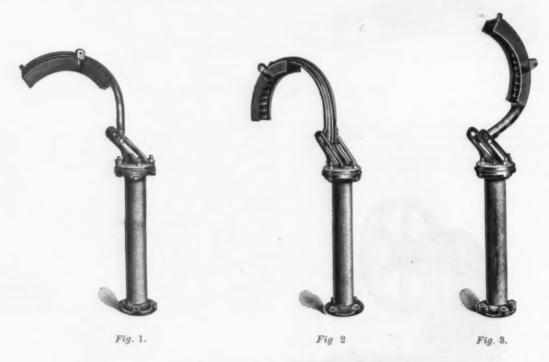
Tests of the machinery of the new pipe mill of the Harrisburg Pipe & Pipe Bending Company are now being made, and it is expected that active operations will be commenced within ten days. The company have already placed a number of orders.

Some of the plants in this section report an increase of foreign trade. The Harrisburg Boiler & Mfg. Company have just completed a shipment of large boilers to Brazil, and orders have been booked for Europe and

Brazil, and orders have been booked for Europe and South Africa.

Most of the plants here and in this immediate vicinity are running more or less regularly. There is the usual midsummer dullness, but the suspensions in several mills cannot all be charged to the intense heat. More orders could be accommodated.

The agreement of certain large combinations to re-



THE KONRAD EMERY WHEEL GUARD

the practical end of the uncertainty that has caused a

decline in an otherwise satisfactory market.

During the last ten days the heat has been so intense and so continuous that many mills were not operated steadily. As a result the output was considerably be-low the average. It is said that employees of industrial plants never suffered so much from heat as during the last ten days. During the remainder of the hot period the management of the several local plants will endeavor to give the men as much relief as possible by decreasing the hours. There has been no talk yet of a cut of wages, but should the decline continue the maintenance of the prevailing wages will be out of the question.

All the coke ovens and the furnaces at Orbisonia are out of blast and the town is reported as exceedingly quiet. Other towns depending upon the activity of steel and iron plants are likewise feeling the direful effects of closing plants that have been running steadily since the boom of last summer. Even these people, however, are hopeful. Employees of furnaces and other works in which great heat is inseparable from the daily toil are only too glad for a respite, enforced or otherwise. They would just as soon rest during this climax of heat. President E. C. Felton spent two days at the Pennsylvania Steel Works last week inspecting the improvements and consulting with the heads of departments. Much headway has been made on the new additions

Much headway has been made on the new additions to the plant, and the structural work for the new engine house is completed and ready for erection. Friday another of the great girders for the New York Central &

strict the output in certain lines for the purpose of maintaining prices has been a boon to a number of the smaller concerns in this territory. They are outside the comconcerns in this territory. They are outside the com-binations and are able to close contracts for comfortable orders at good margins.

The South Harrisburg Chain Works are running five days a week, and the management report a better feeling throughout the trade and a more encouraging out look

There has been a revival of railroad building in the State, and this means an improved demand for rails and other structural material.

## The Konrad Emery Wheel Guard.

The emery wheel guard here illustrated is not only The emery wheel guard here illustrated is not only intended to protect the operator if the wheel should break, but also to guard him against flying particle-during grinding. In Fig. 1 the guard is shown with the automatic slide up. The slightest break in the wheel will instantly throw the slide forward, as indicated in Fig. 2, and effectually protect the operator. The device can be tilted back, Fig. 3, or raised out of the way for changing wheels or accommodating larger ones. As the wheel is reduced in size the guard can be adjusted as as to always be within ¼ inch of its face. The guard is made of malleable trop of ample strength to perform as to always be within ¼ inch of its face. The guard is made of malleable from of ample strength to perform its duty. It is manufactured by the Konrad Emery Wheel Guard Company of Oshkosh, Wis.

## Lake Ore Matters.

DULUTH, MINN., July 22, 1900.—The June movement of ore is continuing fairly well. The superintendent of the Sault Canal, talking to your correspondent the past week, said that July's total tonnage would probably ex-ceed that of any month in the history of the canals, this being partly due to the larger movement westward of coal. It is likely that August 1 will see a total of about 8,800,000 gross tons of ore off upper lake docks. There is some slackening of shipments all around.

By deals that have been in progress for a long time

a number of Michigan lumbermen, owners of iron bearing lands on the Western Mesaba, and the last of which has just been settled, the Lake Superior Consolidated Iron Mines have agreed on a minimum output andated Iron Mines have agreed on a minimum output annually of 700,000 tons and at a royalty of 25 cents throughout their old agreement being for a far smaller minimum but 30 cents royalty. There is a 300,000-ton minimum on the Alworth, Hull and Boeing lands, which include the Hull and Sellers mines, the Hibbing town-site exploration and one 40 in 31, 58-17, near the Adams mine. There is a 200,000-ton minimum on the Burrows, Rust and Goff lands, including the Rust mine and lands in sections 1, 2 and 12, 57-21, and in 35, 58-21. There is in sections 1, 2 and 12, 57-21, and in 35, 58-21. also a 200,000-ton minimum on Burt lands, including the Burt mine and about 1200 acres on the formation in 58-The ore deposits on these various properties are enormous, and these lumbermen are now assured of getting, under a contract with one of the strongest concerns in world, an annual income of not less than \$175,000, and possibly far more, according to the state of the ore market. These lands were bought solely for the pine, which has been sold off at a profit, so that this magnif-cent return is simply an extra and—before the discovery of ore thereon—an unexpected and entirely unearned in-The Consolidated company have other crement. erties, lease and fee, in the neighborhood of Hibbing. The Consolidated company have for years been striving to reduce the royalty rates of 30 and 35 cents on these lands mentioned, and the outcome is a settlement evidently agreeable to all parties. Local newspaper comment has shown a very erroneous conception of the sit-

There is no such change in the attitude of large concerns exploring and developing the Mesaba range as some would have us believe. Speculators who have been at work are finding changed conditions seriously affecting their chances of profit, and they are dropping out of the explorations, but the leading mining and consuming interests are carried forward the same policy as for the interests are carrying forward the same policy as for the past year. It has been reported in Duluth that Mesaba Bessemer ore has been offered on Lake Erie docks at \$3 and has been refused, but I cannot verify this, and it is

probably untrue.

A find of high grade Bessemer ore is said to have been made on the west half of the northeast quarter of section 28, 58-20, on land belonging to John R. Mitchell of Winona. The extent of the ore body is not known, but the discovery is half way between the Clark mine on one side and the new Monroe on the other, and the land joins both. It is the center of the enormous 58-20 discoveries. The Roucheleau exploration, examined four years ago by the Consolidated Mines under an option for a purchase at \$1,250,000, has now been gathered In by them, at a total price of about \$950,000, including the \$125,000 they then lost by the option. This property lies directly east of the Minnewas and south of the Ohio, which can be mined by open pit shoveling. The price is for the fee, so that the ore is calculated on the basis of 5 cents a ton in the ground. Included in the purchase is an 80-acre tract between the Malta mine and the Minnesota Iron Company's Elba lands.

Explorations continue as of late on the Vermillion range, the only change of which I know being a new drill for the Mahoning Ore & Steel Company in the south

drill for the Mahoning Ore & Steel Company in the south half of the northeast quarter of 35, 63-13. Shipments off the Vermillion are about as they have been.

On the Gogebic the Oliver Company have reduced their force at Norrie about 10 per cent. At one Norrie stock pile 150 cars were recently loaded in 10 hours. The American Steel & Wire Company have at last made virtual announcement of the purchase of Atlantic, of which I hinted last December, by putting one of their superintendents in charge and letting the facts come out. The mine was bought at that time for \$500,000 and was The mine was bought at that time for \$500,000, and was considered an excellent purchase, especially since the new shaft found a large deposit. Superintendent Shepard, formerly of Cuff, is in charge and has brought an additional mining force from Iron Mountain. The mine should increase over 100,000 tons from last year. Iron Belt, that was figured at about 100,000 tons for the sea-on, is coming together and will not do much more than

At Crystal Falls, Lamont (Corrigan, McKinney & Co.)

has come together, and the single shaft is in such shape that all work is suspended until a new shaft can be sunk and the mine reopened. Former operators mined too close to the shaft, which was in ore, and the pillars were not heavy enough to support the weight. Bristol, old Claire, has closed down in part, though development It has a large deposit and will have a will continue. will continue, it has a large deposit and will large a market at some future time. Oglebay, Norton & Co., who have Bristol, have taken Beaufort, Marquette range, which was under option to Cleveland Cliffs, and will reopen it. The Milwaukee Company's line into Crystal Falls has been surveyed and the road and mine branches are rapidly being put down.

The first 50-ton ore cars for the Algoma Central Road's Helen mine branch have been received and ship-ments began last week. Your correspondent was presments began last week. Your correspondent was present at the beginning of active operations at dock and mine. The company are now to ship to Midland and Hamilton, and later to some American port, having made sales on this side the tariff line. They are in position to compete, with their short haul and easily mined hard ore carrying so slight a fixed charge for purchase or development. This company have bought and are receiving a large consignment of 50-ton cars, the economy of which, for their line, may possibly be doubted.

The Oliver Iron Mining (Carnegle) Company are stock

piling at their Oliver mine, Mesaba range, a very large quantity of low grade ore, too good to throw away and not available for shipment. They now have six piles of the ore, all large. The fact brings out an interesting point, which is this: If this company, operating their own furnaces and having ores of all classes in their own mines, are unable to pay the royalty on low grade Mesaba ores, what will the independent miner do who has such ores for sale? There are vaster quantities of this ore on the Mesaba than had been believed possible, and its discovery is proceeding right along. Almost every mining concern has it, and its separation from shipable ore is a matter of importance. Nearer the furnaces this ore might be successfully utilized, but with freights as now it is idle to talk of its consumption. As I have almost a taked the greating of Messale are values is more ready stated, the question of Mesaba ore values is more and more a matter of quality, quantity being far less of a criterion of value than a few years ago. Mining companies recognize this now in both purchases and leases in the former by price and in the latter by a differential in royalty based on analysis.

The largest cargo ever carried by a lake steamship was taken last week by the "John W. Gates," 7267 gross or 8139 net tons. The "Hill," of the same fleet, carried 7147 gross tons. These are 100 tons less than was carried by the Bessemer (Rockefeller) tow barge "Smeaton.

#### The 50-ton Pressed Steel Cars.

Upper Lake Superior iron ore railways are expericomper Lake Superior from ore railways are experimenting with the pressed steel cars, and their work is watched with considerable interest. Owing to the peculiar conditions surrounding the hauling of ore from mines to Lake Superior, these cars will be subjected to tests there that are wanting elsewhere, and they will act

on roadbeds in an exaggerated way.

By reason of spacings of both ore ships and docks, cars for the trade must be but 24 feet centers, and must be no wider than standard, thus putting the center of gravity for the additional load carried by the 50-ton cars quite high. In general these ore roads have heavy grades with traffic, and sharp curves. The effect of a car itself weighing 15 tons and carrying 50 tons more, all on a related base of loss than 10 feet traveling at greed. a wheel base of less than 19 feet, traveling at speed on such grades and around such curves, is somewhat of a problem. So concentrated is the load of these cars, 5000 problem. So concentrated is the load of these cars, 5000 pounds to the lineal foot of track, that running for distances over swamps and deep, soft "muskegs," they will quickly find weak places other classes of traffic would never discover. At mine spurs conditions frequently necessitate sharp curves and heavy grades.

Receives of the read gradients, ranging from 14 to 24

Because of the road gradients, ranging from 1½ to 3½ per cent. against traffic, there must be high braking power, and as the arc of the wheel the brake shoe can embrace is no greater than in 25-ton cars, the grip must be tighter, introducing questions for car and track main-

So far there have been very few wrecks in the ore regions in which steel cars have figured, but where they have the result has been most satisfactory. A few days ago an ore train coming down to Duluth was wrecked. contained 10 steel cars and some 30 wood hoppers of 25 to 30 gross tons. These latter were smashed to pleces, while the steel cars were repaired without difficulty at the road's ordinary shops. Still most of the experimenters are pulling a few steel cars on the rear of their trains. Some difficulty has been experienced in dumping them when filled with the soft hematites that form so large a portion of the Lake Superior mineral operation. This, of course, is easily remedied whenever it comes up.

The ore roads are short, loads being rarely hauled

more than 75 to 100 miles, and in some cases but 12 to 15. The value of the heavy car on the shorter hauls would seem almost questionable. But the first lake road to use them was the Lake Superior & Ishpeming, which has a very short haul, and whose experience is said to be very favorable. Certainly from the 8-ton car of a few years ago to the 50-ton car now there must be many problems and interesting departures.

#### Lake Copper Notes.

The Arcadian Copper Company will sink a shaft into the Mesnard epidote, where they have been testing lately. It will be a three-compartment shaft. Quincy is sinking into the Mesnard portion of the mine, and will go 4000 feet, connecting there with the North Quincy. The work will consume several years.

Calumet & Hecla are to erect a sand wheel 60 feet in diameter and 6 reet face, to handle about 2750 tons of stamp sand and 3,000,000 gallons of water every day. It will care for sand and water from eight stamps now

The sand concentrating device on the Franklin waste has concentrated to a value of 55 per cent. copper, and will be enlarged and introduced elsewhere. It looks like a big thing.

## Canadian News.

#### Power Works and Steel Plant.

On the 18th inst. the first sod of the Hamilton and On the 18th inst. the first sod of the Hamilton and Lake Erie power canal was turned with some ceremony at Silverdale. A number of people were present. E. A. C. Pew, the promoter of the canal company, gave an account of the inception of the idea and of the plans. Before starting the canal, he said, it was necessary to obtain a market for the power. It was partly to contribute to this purpose, he explained, that he organized the Canadian Steel Company, with a capital of \$18,000,000, to locate at Welland. An act of Parliament was passed, authorizing the steel company to guarantee the bonds of the power company. The steel company have undertaken to do so, and to contract for 15,000 electric horsethe power company. The steel company have under taken to do so, and to contract for 15,000 electric horse power, which is to be supplied at the annual rate of \$20 per horse-power. The source of the water is Welland River. That stream flows into the Niagara, and the waters of the latter river are more or less forced up the channel of the Welland, owing to their great force and to the deflection at that point. A power canal is to tap the Welland River at a point in this overcharged section of its channel, into which canal there will be a constant rush of water. The canal, which will be a work of mere earth cutting, will run 6½ miles to Jordan River, otherwise known as the Twenty-Mile Creek, a dwindled stream which enters Lake Ontario 20 miles from the mouth of the Niagara River. In the course of the rocky channel of the Jordan are two or three falls, the highest of them being at Jordan village, where there is an abrupt fall of 100 feet. The total fall that can be utilized for producing power has been ascertained to be about 250 feet. Mr. Pew says the canal will be completed at nearly the same time as the Welland Steel Works, which he states will be about September, 1901. Power, he promises, will be transmitted to Toronto and Hamilton at about half steam rates. The installation plant is to develop 25,000 horse-power, which can be increased to 50,000 or 60,000, as required. Plans of the canal show that it is to be 150 feet wide at the top, 60 at the bottom, 12 feet deep, with a current of 3½ miles an hour. It is estimated that it will cost \$1,000,000 to construct. Fig-The canal, which will be a work of mere rush of water. estimated that it will cost \$1,000,000 to construct. ures indicating the cost at which the electrical machinery can be obtained have been received, Mr. Pew says, from the Stanley Company, at Pittsfield, Mass.; the Royal Electric Company of Montreal, and others. Mr. Pew is the man who conceived the idea of the Toronto. Hamilton & Buffalo Railway and promoted it with such success.

#### Dr. Coleman's Explorations

Dr. Coleman, who has just returned from the Lake Superior district, where he was making investigations for the Ontario Bureau of Mines, now leaves Toronto for Europe. He will attend the World's Congress of Geologists at Paris. After putting in some time with an exploration party in the north of France, and in Switzerland, he will go to England to attend the British Assoiand, he will go to England to attend the British Asso-ciation meeting. At this meeting he will read two pa-pers—one dealing with the glacial drift phenomena in the vicinity of Toronto; the other with the occurrence of jasper bands in Northern Ontario, Michigan, Wisconsin and Minnesota. He was engaged in examining these bands while away on the tour from which he has just returned. In Ontario he has reason to believe the extend from Batchawana Bay to Lake Temesca He found jasper to occur in two parallel bands a

ber of points. The chief interest in locating these bands lies in the relation they bear to iron ore deposits. It is believed that the tracing of them will prove sistance to prospectors for iron ore. Dr. Coleman is satisfied that there is ore at several points along the line of his explorations. He made a short visit to the Michipicoton mining division, where he noted progress at the Helen mine. He says there has been much development at that point since he was there last year. Numerous drill borings have been made, and one level has been driven into the body for a distance of nearly 300 feet, proving its length in one direction to be about 1000 feet. The depth, as shown by the boring, is about 300 feet, and Dr. Coleman has no hesitation in saying that the quantity of ore is to be measured by millions of tons. The average of all the borings, he says, shows it to contain 64 per cent. of iron, and it is remarkably free from impurities. During his first visit to the mine, the first lot of ore, containing three carloads, was sent down to Michipicoton harbor, and the first boat load for the Midland smelter should be deliv-

#### Electric Interests Unite.

The Royal Electric Company, Montreal, manufacturers of electrical machinery and supplies, light, power, &c., have contracted with the Chambly Mfg. Company for all the power produced by the latter during the next 50 years. At the end of the 50 years the plant used for the distribution of this power is to be handed over to the Chamble Company of the state of the chamble Cha Chambly Company in good condition. The Chambly Company are to erect a building for the generation of power and a sub-station in Montreal. All the Chambly contracts are taken over by the Royal. The Royal will pay the Chambly \$15 per annum per horse-power for the first 15,350 horse-power, and \$10 per horse-power for all powers of that arount. It is calculated that the less in excess of that amount. It is calculated that the loss in transmission will be 12 per cent. Senator Forget is president of both companies

In the year ending May 31 last the net profits of the Royal Electric Company amounted to \$556,692, as against \$267,684 for the previous year. They have just sold their holdings of Chambly Company bonds, realizing on them a profit of \$371,000.

### Minor Notes.

A settlement of the dispute between the molders' union and the iron founders of Montreal has been arrived at, the result being an advance in wages of 15 cents per day

From the Wilbur mines on the Kingston & Pembroke Railway large quantities of iron ore are being taken. A spur line is to be run to the mines. For this purpose the Dominion Parliament has voted \$38,000 as a subsidy to the railway

The Montreal Automobile Company, with a capital of \$250.000, have applied for a charter of incorporation.

According to the Marmora Herald, the Hamilton smelter is no longer using ores from the Marmora mines.

A quantity of machinery, valued at \$40,000, has been

received for the construction of the Quebec bridge. A number of the Montreal striking boiler makers have gone to the United States to seek employment.

Since Dr. Haeffner's return from Germany things have not gone on quite smoothly between him and the Haeffner Refining Company, of which he is managing

director. The differences have finally got into the courts.

Upon the advice of English brokers, the promoters of the steel works at North Sydney have decided to postpone the floating of the stock until the state of the London mining market improved. But the development of the coal areas purchased from the General Mining Association will at once be proceeded with.

The council of the Iron and Steel Institute of Great Britain, at their meeting held this month, appointed as successor to Sir William Roberts-Austen William Whitwell of Stockton-on-Tees. The new president-elect has been a member of the council of the Iron and Steel Institute for many years, and, since the election of Sir David Dale, Bart., to the office of president some five years ago, Mr. Whitwell has held the office of treasurer. He is head of the company who own the Thornaby Iron Works, consisting of blast furnaces and rolling mills, at South Stockton-on-Tees, and no man is better known or more generally respected in the Cleveland district

The Wright & Colton Wire Cloth Company, Worcester, Mass., are fitting up for wire drawing one of the buildings at their wire mills at Palmer, Mass., which has been used as a storehouse. A number of new machines will be placed in position and more operatives will be added to the present working force. Still greater additions to the present wire plant are contemplated.

## **OBITUARY.**

JASPER R. RAND.

Jasper Raymond Rand of Montclair, N. J., died from heart disease on July 18 at his home, at the age of 63 years. Mr. Rand was born at Westfield, Mass., in 1837, of a family dating its American ancestry from 1635, and including two colonial governors, and which was well represented in the Revolutionary War. He obtained his education in the public schools and academy of his native town and in Fairfax, Vt. His earliest business connection was with his father, who was a manufacturer of whips when Westfield was the headquarters of that industry. In 1865 his father retired from business, and Mr. Rand and his younger brother, Addison C. Rand, succeeded him. In 1870 he removed to New York, and was for a time associated with another brother, Albert T. Rand, president of the Laflin & Rand Powder Company. In 1872 Addison C. Rand began the manufacture of the Rand rock drills and other mining machinery, and the two brothers subsequently organized the Rand Drill Company, with A. C. as president and J. R. as treasurer, which arrangement continued until the death of A. C. Rand in March, leaving the chief office vacant, when J.



JASPER R. RAND.

R. Rand was elected to the position. In 1873 Mr. Rand removed his residence to Montclair, N. J., where he had ever been prominent in local affairs. He was one of the organizers of the Bank of Montclair, of which he was continuously the president. He was a member of the New England Society, the Hardware Club and Engineers' Club of New York City, and for 40 years a member of the Mt. Moriah Masonic Lodge of Westfield, Mass. He was practically acquainted with every field of business life from that of traveling salesman up. He had a remarkable fund of wit and of pointed but stingless repartee, which made him the most delightful of companions, qualities which naturally brought him friends without limit. These and other qualities also made him a presiding officer, under whose gavel it was a delight to sit. He was interested in all public enterprises, and contributed generously to their support. He leaves a widow, a daughter and a son, the latter now representing the Rand Drill Company in Paris.

#### JOHN H. RICKETSON.

The death of John H. Ricketson, one of Pittsburgh's leading manufacturers and one of the city's most public spirited men, occurred on the 20th inst. from heart disease, at Nonquitt, Mass., at which point Mr. Ricketson had been staying with his family for the past month. Although he had been in poor health of the past four years, it was not suspected that the contact so near.

Mr. Ricketson was identified with many littsburgh enterprises. His most important bus needs onnection

was with the A. Garrison Foundry Company, of which he was president, and to the building up of which the he was president, and to the building up of which the best years of his life were given. John Howland Ricket-son was born at New Bedford, Mass., on September 21, 1837. His parents on both sides were members of old New England families. He graduated at Harvard College in 1859 and for a time studied law in Boston. He removed to Pittsburgh in 1860 and there completed the study of law. The period during which he was a practicing lawyer was brief. In 1862 he married Miss Clementine Garrison and soon thereafter became associated with his father-in-law, Abram Garrison, in the foundry business which the Garrison family had established in About 1890 the firm were incorporated as the A. Garrison Foundry Company. Abram Garrison was their first president. Mr. Ricketson became president upon Mr. Garrison's death in 1894, at the age of 90 years, but because of Mr. Garrison's advanced age Mr. Ricketson had really been the active head of the firm for half a dozen years or longer before this. Mr. Ricketson was president of the Tenth Street Bridge Company at the time the property was acquired by the city, and was a director of the Sixth Street Bridge Company at the time of his death. He was a director of the Bank of Pitts-burgh and vice-president of the Safe Deposit & Trust Company. Many other public enterprises had enlisted his sympathy and interest during his active career. Mr. Ricketson was a man of wide literary attainments and enjoyed considerable fame as an orator. One of his speeches, which is well remembered by leading Pitts-One of his speeches, which is well remembered by leading Pitts-burghers, was delivered on the occasion of a visit to Pittsburgh by Gen. U. S. Grant, shortly after his famous trip around the world. The reception to Grant took place at the old Exposition Grounds in Allegheny. Mr. Ricket-son was a charter member of the Duquesne Club, and was the president of the club for a considerable period during the earlier years of its existence. He took an active interest in its affairs down almost to the time of his death. He was also a member of the Pittsburgh Club, the University Club of Pittsburgh and the Uni-Club, the University Club of Pittsburgh and the University Club of New York. He was a member of St. Andrew's Protestant Episcopal Church and for several years held the office of vestryman. The deceased manufacturer is survived by his wife, two daughters and two sons, Oliver E. and John H., Jr.

#### RUFUS M. STIVERS.

Rufus M. Stivers, vice-president of the National Carriage Builders' Association of America, died on the 19th inst. at his home, Williamsburg, N. Y., of injuries he received a week before by being struck by a cable car. Mr. Stivers was born at Greenwich, Conn., in 1822. He was the sou of a blacksmith and wheelwright, and in early life learned the trade. He became a carriage maker, and in 1855, when he came to New York, he established the present large carriage plant in East Thirtyfirst street, in this city. He belonged to a number of Masonic bodies, as well as the Union League Club of Manhattan. He is survived by a wife and three sons.

#### JOHN ABENDROTH

John Abendroth, formerly a member of the firm of Abendroth Brothers of New York, died on July 22 at White Plains, N. Y., in his seventy-sixth year. He was born in Germany and came to this country when a young man. With his brothers, William P. and Augustus Abendroth, he formed the firm of Abendroth Brothers for the manufacture of boilers, cast iron pipe, &c., at Port Chester, N. Y. He withdrew from that firm in 1874 on account of failing health. Mr. Abendroth was at one time the senior member of the firm of Abendroth & Root, manufacturers of riveted pipe and tubular boilers, with works in Jersey City, N. J., and offices in New York City, but he retired from the business several years ago. He leaves a widow, two sons and a daughter. The funeral services were held at White Plains on Tuesday and interment was made at Rye, N. Y.

## COL. W. M. GROSVENOR.

Col. William Mason Grosvenor, a writer on financial and industrial topics, and for many years an editorial writer for the New York Tribune, died at his home, Englewood, N. J.. on the 20th inst. He was a cousin of Gen. Charles H. Grosvenor of Ohio. In debate he was an enemy to be feared because of his wonderful stock of statistics ever ready to his tongue. Colonel Grosvenor was born in Ashfield, Mass., April 24, 1835, being a son of a Congregational minister. He entered Yale College, but left after three years, when only 19 years old, to become editor of the New Haven Palladium. This position he filled until the breaking out of the Civil War, when he went to the front as adjutant of the Thirteenth Connecticut Volunteer Infantry, and was promoted to a captaincy almost as soon as the regiment reached the seat of war. At New Orleans he was instrumental in raising the Second Louisiana Regiment, Native Guards

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(colored troops), of which he became colonel, and he led that command until peace was restored. Upon being mustered out he became editor of the New Haven Journal and Courier for a brief period, and in 1866 went to Missouri, where he became editor of the St. Louis Democrat. While acting in this capacity he wrote a powerful argument for free trade, entitled "Does Protection Protect?" The book had an extended circulation, but the author himself became a convert to the doctrine he had denounced and remained a strong protectionist until the time of his death, and said, with a smile, that the perunal of his own writings had brought about his change of heart. He came East to join the Tribune staff in 1875 and took up his residence in Englewood, where he had since remained and took a great interest in civic affairs. He wrote the financial review for Dun's Mercantile Agency and furnished a quantity of matter for it on the night before he died, although his illness had prevented him from coming to the city for several months. He leaves a wife and a son, Dr. W. M. Grosvenor of Hobelon.

#### WILLIAM M'ADAM.

William McAdam, for 40 years a manufacturer of steam boilers in Brooklyn, N. Y., died suddenly of heart disease at Allanville, N. Y., on July 22, aged 70 years. He was born in Ireland and came to this country when 22 years of age.

#### E. A. YERKES.

E. A. Yerkes, connected with the firm of Anderson, DuPuy & Co., Pittsburgh Steel Works, at McKee's Rocks, Pittsburgh, died at his residence in Crafton, Pa., last week. He was born in Delaware, and at an early age served an apprenticeship in a branch of the metal trades, and in later life gave his entire attention to the development of the machine manufacture of hammers, sledges and edge tools. He acquired a national reputation in this line. For many years he was a member of the firm of Yerkes & Plumb, at Philadelphia, but for the past few years had been connected with Anderson, DuPuy & Co., having charge of their tool department.

### WINTHROP THAYER.

On the 18th inst. Winthrop Thayer died at his home in Boston. He had been confined to the house for a few days by an attack of typhoid fever, from which developed pneumonia. The excessive heat of the day acting on his weak condition caused his death. Mr. Thayer was born in Boston, November 23, 1863. He was widely known among engineers through his trade connections and his ability in engineering lines, especially in the branch of steam generation. When 18 years of age he entered the Boston office of the Babcock & Wilcox Company. Soon after his acquaintance with the business he was made manager of the Boston office, which position he retained until five years ago. He came to the New York office of the company and remained there a year. He was one of the principal organizers of the firm of Thayer & Co., Incorporated. Together with his brothers Frank and Rodney he made a great success of the new undertaking and to-day the firm are well known as the sales agents of the Cahall water tube boilers and the product of the Aultman & Taylor Company of Mansfield, Ohio. At the time of his death Mr. Thayer was in charge of the Boston office of the firm. He was a member of the American Society of Mechanical Engineers, the Engineers' Club of New York, the New England Cotton Manufacturers' Association and the Manhattan Club of New York. He was vice-commodore of the Hull (Mass.) Yacht Club, and an active member of the Boston. He was active in Masonic circles and also a member of the Exchange Club of Boston and the Newton Club of the same city. A widow survives him.

A dispatch from Ottawa, Ont., says that in voting a subsidy of \$230,000 for the reconstruction of the Victoria Bridge of the Grand Trunk Railway over the St. Lawrence River at Montreal, Sir Wilfrid Laurier said that the entire cost would be \$2,131,000. There was 45,000,000 pounds of steel used in the superstructure, and of this amount 35,000,000 pounds were imported from the United States, as it could not be obtained in Canada. The customs duty paid to Canada was \$227,000.

The plan to form a combination of the independent coke producers of the Connellsville region, which was being promoted by John Jamison, has been abandoned. A number of options were secured on important plants, but on account of the condition of the iron market and the falling prices for coke the scheme has been dropped for the present.

White & Gibson, Maryville, Mo., are in the market for a 10-ton new or second hand roller and a No. 3 Gates stone crusher, with a capacity of 125 yards per day.

## Western Bar Iron Mills on Strike.

It will be recalled that some time since we stated that a vote was being taken among the lodges of the Amalgamated Association to decide whether the wage conference committee should be given discretionary power to change the scale, as formulated at the annual convention in Indianapolis. This scale makes the minimum \$5.50 a ton for boiling on a 1 5-10 cent bar iron card, and when the average price of bars is 1 6-10 cents the boiling rate would be \$5.75, while at 1 7-10 cents the rate would be \$6 a ton, while for each advance of 1-10 cent afterward boiling advances 12½ cents per ton.

This scale was presented to the manufacturers at a

This scale was presented to the manufacturers at a conference held in Detroit shortly after the Amalgamated Association convention adjourned. The Republic Iron & Steel Company and the American Steel Hoop Company, owning nearly all the bar mills in the Central West and South, were represented by James H. Nutt, Labor Commissioner. Officials of these two companies were also present and the new scale was gone over carefully, and the manufacturers stated that in view of the rapidly falling market on iron and steel products it would be absolutely impossible to grant any advance in wages at this time.

The wage committee representing the Amalgamated Association did not have power to change the scale, and the conference adjourned for the purpose of taking a vote to determine whether this power would be given to the committee. The Amalgamated lodges have decided not to extend this power, and the result is that a strike exists to-day in the bar iron mills in the West and South that are governed by the Amalgamated Association scale. In fact, the amunfacturers refused twice to accept the scale presented by the Amalgamated Association, the first time at the preliminary conference held in Indianapolis before the Amalgamated Association adjourned, and the second time at the regular conference in Detroit.

There is no doubt that the Amalgamated Association have made a serious mistake in insisting that the scale adopted at Indianapolis be signed by the manufacturers. It is absurd for the men to ask an advance at this time, when bar iron is selling very close to the lowest price it ever reached. It is a fact known to the trade that a good deal of tonnage in steel bars has recently been placed, but at very low prices. Some of the contracts were taken at 1.10c. at mill, but others went at lower prices. The new scale of the Amalgamated Association is based on bar iron at a minimum of 1.50c. It is selling

now at \$5 a ton or more under that price.

At this time there is no prospect of another conference being held, and it is therefore likely that the bar iron mills will remain idle for some time. An order has been issued by the Republic Iron & Steel Company, notifying all employees at 12 of their plants, located in Ohio, in the South and in the gas belt district of Indiana, that their services have been dispensed with and that they are at liberty to seek employment elsewhere. If a call should be issued for another conference it must be for the purpose of modifying the Indianapolis scale. Any independent mills that signed the Amalgamated scale and operate their puddling departments will have to pay from July 1 \$6.12½ a ton for boiling, this being the rate decided upon at a recent conference between officials of the Amalgamated Association and James H. Nutt for the manufacturers. Very few puddling mills, however, either independent or otherwise, will be operated for some little time.

## The Crucible Steel Company of America.

The Executive Committee of seven of the Crucible Steel Company of America was selected last week at a meeting of the board of directors. Wm. G. Park of the Park Steel Company is chairman of this committee, with the following additional members: C. H. Halcomb, president of Sanderson Brothers Steel Company of Syracuse, N. Y.; James W. Brown, chairman of Howe, Brown & Co., Limited, Pittsburgh, Pa.; Reuben Miller, president of the Crescent Steel Company of Pittsburgh; Robert E. Jennings of Spauldings & Jennings Company, Jersey Gity, N. J.; Benjamin Atha of the Benjamin Atha & Illingworth Company, Harrison, N. J., and Herbert Du Puy of Anderson, Du Puy & Co., Pittsburgh. Members of this committee are also members of the board of directors and will have charge of the executive affairs of the company. The officials elected are Wm. G. Park, chairman; C. H. Halcomb, president; Reuben Miller, treasurer, and Frank B. Smith, secretary.

One of the largest girders ever turned out at the Pennsylvania Steel Company's Works, at Steelton, Pa., was shipped last week for a bridge at Rochester, N. Y. The girder was 81 feet long and 15 feet high, and three gondola cars were required for its transportation.

## The Iron Age

## New York, Thursday, July 26, 1900.

 DAVID WILLIAMS COMPANY,
 PUBLISHERS.

 CHARLES KIRCHHOFF,
 EDITOR.

 GEO. W. COPE,
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The Index of the contents of Volume LXV of *The Iron Age*, for the first half of 1900, is now in print. Subscribers may obtain a copy by addressing the David Williams Company, at 232-238 William street, New York, or by application at the offices of *The Iron Age* at the Forrest Building, Philadelphia, Pa.; the Mason Building, Boston, Mass.; the Hamilton Building, Pittsburgh, Pa.; the Cuyahoga, Cleveland, Ohio; the Pickering Building, Cinciunati, Ohio; the Fisher Building, Chicago, Ill., and the Chemical Building, St. Louis, Mo.

### Dearer Fuel in Great Britain.

The high prices of coal and coke continue to disturb British iron and steel manufacturers. It appears that the coal mining companies of Great Britain quite generally drew their recent contracts so that they would expire June 30, thus enabling them to advance prices simultaneously July 1. This advance was so great as to cause almost a feeling of consternation among manufacturers of iron and steel. Alluding to this subject, the Ironmonger for the 14th inst. says: "There is no doubt that many industries will be seriously affected by the enormous cost of both coal and coke, and it is pretty safe to say that there are very few iron and steel manufacturers depending upon outside sources for their fuel who can afford to view the future with equanimity."

The condition is sufficiently grave to be alluded to as a "coal trade crisis." In the face of a distinctly weaker tendency in the iron market, British manufacturers are thus handicapped by an increased cost of production due to the high price of fuel. At a time when they are extremely solicitous of reducing costs they find one of their most important materials sharply advancing. And this advance is not made from a low level, but is an additional enhancement of prices that had previously been quite high. The mine owners are masters of the situation, inasmuch as they are having not only a heavy demand for export, but also an extraordinary trade from their home manufacturers. They are able to get the prices they ask and are not moved by considerations of compassion for their customers.

For the time being this situation will operate to the advantage of British competitors, including prominently the manufacturers of this country. On this point the Ironmonger says: "Our greatest competitor in the iron and steel industry-the leading manufacture in this country so far as the consumption of fuel is concerned-is the United States. Even under ordinary circumstances the American maker can turn out pig iron at a lower price than can the British ironmaster; but when the latter is called upon to pay fancy prices for his fuel the divergence becomes more and more marked, and there can be little doubt that the action of the colliery owners is in reality putting a premium upon the American iron and steel manufacture." Cheap fuel is enjoyed in America, and from present appearances it is likely to continue cheap and even become more so. The stagnation in our home trade causes foreign markets to be sought with avidity, and anything that handicaps our competitors is

of special value to us just now. Eventually the inroads that may be made in the trade of British manufacturers will cause diminished industrial activity in Great Britain and a decline in the demand for British coal, which will cause a reduction in its price. But in the meantime the situation must be decidedly unsatisfactory from the British manufacturer's standpoint.

## Protecting the Gold Standard.

To what extent the law of March 14 establishes and is capable of protecting the single gold standard has been discussed within a few days by Professor Laughlin of the University of Chicago in the Journal of Political Economy, Professor Taussig of Harvard in the Quarterly Journal of Economics, Mr. Walker of Massachusetts, recently a member of the House Committee on Banking and Currency, in Gunton's Magazine, and Secretary Gage in the Journal of Commerce and Commercial Bulletin. Professor Laughlin and Mr. Walker regard the law as of very little value, adding nothing appreciable to the existing legislation as to the standard, and nothing of decisive importance to the existing means of protecting it. Professor Taussig takes a much more favorable view of the efficacy of the law, and Secretary Gage regards it as a real and substantial addition to our currency legislation, both in defining the single gold standard and in not only providing the Secretary with the means of protecting that standard, but making it obligatory upon him to do so. The Secretary believes that, the gold standard having been established, even an opponent of it could not break it down unless he deliberately violated the law. We are not in the habit of assuming that any public official will do this.

If the Secretary's optimistic view is entirely justified there still remains the danger that Congress might repeal the law. A new House of Representatives is elected every two years and one-third of the Senate is elected every two years. In March there seemed to be a large sound money majority in the Senate, but several Senators who supported the bill, which was a much weaker gold standard measure than the bill originally passed by the House, are not single gold standard men at all, but bimetallists, and others who voted for the bill come from States where the cheap money sentiment is strong and who might have to change their opinions to save themselves from defeat, or might be replaced by advocates of silver. The real sound money single gold standard majority in the Senate is not so large as the vote for the compromise bill which became a law. As to the House, an election frequently makes a radical change in its complexion. The gold standard cannot be regarded as really safe as long as a large part of the people are opposed to it; they may get a majority at any time. But it is confidently believed that the sentiment for cheap money is weaker now than it used to be, and is bound to grow weaker as a foolish agitation exhausts itself, and in due time it is hoped that the cheap money craze will subside entirely, as the "flat" money craze subsided many years ago.

The new law is sufficient for those who desire to sustain it. Whether persons who oppose it might not find some way of evading it is a pretty serious question. Most laws can be circumvented. The law does not take from the silver dollars their legal tender quality, or authorize the Treasury to redeem them in gold in order to prevent their depreciation should that be threatened. The free silver advocates believe that the way to maintain the equality of gold and silver dollars is to open the mints to the free coinage of both, which requires a

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change in the law, and to disburse both at the option of the Government and not of the public creditor, which is a matter of executive discretion. There are silver dollars in the Treasury with which the payment of obligations could be commenced. To some this might seem a violation of the law of last March, but lawyers of silverite opinions would assuredly find a construction that would permit it. All sound money men, all advocates of the single gold standard, believe that to force silver dollars upon the public creditors would be extremely dangerous to the gold standard and a menace to business, and probably most of them would say without hesitation that it would shortly land the country on the silver basis, with gold going to a premium or seeking the melting pot, or taking a voyage to Europe. The Treasury cannot keep two sorts of dollars in circulation, one of which is intrinsically worth twice as much as the other.

#### International Trade in War Materials.

An interesting controversy is now in progress in Europe as to the practicability and propriety of an international agreement to suppress the traffic in arms and munitions of war between civilized nations and those rated as barbarous or semi-barbarous. Naturally, it grows out of the fact that the powers which have undertaken to suppress the uprising in China and regulate the affairs of that empire find themselves confronted by native troops provided with the very best modern arms, which have come from the factories of England, Germany, France and the United States. Those who expected to find the Chinese forces a mob of undisciplined grown-up children, whose idea of war consists chiefly in waving yellow flags, beating gongs and setting off firecrackers, are, instead, confronted with well drilled and disciplined troops armed with Mauser rifles and other modern weapons, in the use of which they are uncomfortably expert. In view of the obligation devolving upon Germany to make good the threat of the Emperor to take terrible vengeance upon the Boxers, the Kreuz Zeitung of Berlin denounces the British manufacturers "who have betrayed the civilized world and gained an unholy profit by selling arms to the value of millions of marks to the Mongolian barbarians," who are now using them to rid their country of unwelcome foreigners. The English reply to this foolish talk is not in all respects emollient. It calls attention to the fact that not only have 450,000 stands of German arms been shipped to China, but that most of the Boer armament is also of German make, smuggled into South Africa in piano boxes. Obviously that kind of discussion leads nowhere. The question is much better presented in the note of M. Delcasse, French Minister of Foreign Affairs, to the powers, suggesting the consideration of a basis of international agreement for the suppression of the objectionable traffic. M. Delcasse admits that France has had her share of this business, and that her manufacturers have filled all the orders they could get for merchandise of this character. If a wrong has been done in supplying savage tribes and barbarous empires with arms, the only countries not particeps criminis are those having nothing to sell which the savages and barbarians wanted. It is useless, therefore, to waste time and tissue in recriminations. The questions of practical interest are: Can this trade in war materials be regulated or suppressed, and should it be?

There are many theoretical reasons why the manufacture and sale of war materials should be strictly regulated by agreements between the powers, to the end that barbarians and semi-civilized peoples should not be sup-

plied with the means of becoming aangerously aggressive, There are as many practical reasons why this cannot be done, and why, if attempted, it would result in leaving weak states, with every right of self protection, powerless to protect themselves. Russia, as a party to such an agreement, would be likely to insist upon making arms contraband in Turkey and the smaller Asiatic States. Germany and France would have decided views of their own as to where the line should be drawn, which would not agree with those of Russia at all. England would not be likely to regard the matter from a view point other than that favorable to her own interests and consistent with the policy of territorial extension, which is not understood to be in all respects harmonious with the plans and ambitions of the other great powers. Indeed, it is quite conceivable that the peace of Europe might be more seriously menaced by the attempt to reconcile conflicting interests on this point than by leaving it to adjust itself, like any other trade question.

Since the discussion has arisen in connection with China, it is interesting to speculate on the probable attitude of the powers had the agreement now proposed been in force at the close of the Chinese-Japanese war. Russia would probably have insisted upon suppressing all trade with China in war supplies, and for this very reason every other European power would have insisted that the right of that empire to buy all the war material needed for its own protection should be respected, and, if necessary, guaranteed. China would herself have resented any attempt to class her among the barbarous nations, and had such an interference with her rights been attempted the results would have been disastrous to foreign interests. Russia would have taken advantage of the opportunity thus offered to possess herself of the Northern Chinese provinces, and a much more serious war than that now in progress, because less local, might have resulted, involving England, Germany, France and some of the smaller powers. Even this country might have been involved, and certainly it would have suffered vast injury in its foreign trade relations. Just now the rebels against the Manchu dynasty, marshaled by Prince Tuan, seem to be behaving in a very barbarous manner, but China is a long way from being a barbarous or even an uncivilized country. In some things it is far ahead of many of the countries which would be admitted to the counsels of the Western powers in any diplomatic agreements relative to restriction of trade in war materials. China has, or at least had, an extensive and well appointed small arms manufactory at Tientsin, while at the Kiangnan arsenal, on the Woosung River, it has a plant capable of turning out remarkable work. establishment employs 2500 men. It includes a steel plant of modern construction, and shops containing machinery for making all kinds of firearms, from infantry rifles and small rapid fire guns to 12-inch rifled cannon 30 calibers in length. In this establishment, which is managed by the Viceroy of Nankin, the best types of modern arms and ordnance are reproduced. This work is stated to be performed wholly by native mechanics, and there are but two foreigners in the entire staff. The Chinese guns stand, the tests, which are the same as those prescribed by the Western governments, and in quality and finish they are said to be quite as good as any of European make.

As a general fact, it may be said that the powers which make improper use of imported arms acquire them at times and under conditions which would render improper and impracticable any attempt on the part of other nations to regulate or suppress the traffic. As a rule, a modern armament is the first step in the direction of civilization. No country can build up permanent

institutions of any kind as long as it is defenseless and at the mercy of any stronger nation which may want its territory for commercial or other purposes. The international trade in war materials tends rather to peace than to war, and while it would be very convenient for the powers constantly planning for colonial acquisitions to keep defenseless those whom they may wish to "annex," they would soon have more serious quarrels with each other than the present conditions favor.

The argument in favor of an international agreement to suppress the trade in arms and war supplies leads inevitably to universal disarmament, and the world is not ready for this. Indeed, it is doubtful if the interests of civilized nations are not better safeguarded by their war preparations than they would be by any other means. Whatever tends to make war costly, and its issues uncertain, makes for peace and good neighborhood. Meanwhile, nothing is more certain than that the relatively strong powers cannot yet be trusted to decide which of the relatively weak ones shall be permitted to strengthen themselves for either offensive or defensive purposes. Any attempt on the part of the European powers to regulate this matter would set in motion the most interesting and complex system of diplomatic chicanery imaginable. In one way or another each government would facilitate the indirect shipment of arms wherever another government was especially desirous that they should not go, and the resulting complications would be a more serious menace to the peace of Europe than the ability of such peoples as the Chinese, Turks, Moors, Soudanese and Ashantis to offer an effective resistance to the aggressions of the great powers.

The reduction in stocks of pig iron in British storage yards, which has continued for a long time, now appears to have been checked. According to reports recently issued it would seem that the minimum of stocks in these storage yards was reached in the second week of July, when the total quantity of pig iron on hand in all of them was 175,227 tons. For the first time since the reduction set in stocks showed an increase for the week ending July 11. It is true that the increase that week was only 150 tons, but when it is considered that for the whole of this year the weekly decrease has ranged from 10,000 to 15,000 tons, it will be seen that the change to an increase is significant, even though the increase is slight.

#### The Ashland Steel Company.

The entire plant of the Ashland Steel Company, In-The entire plant of the Ashiand Steel Company, in-corporated, at Ashiand, Ky., manufacturers of Bessemer billets, slabs and wire rods, was closed for three weeks overhauling the steel plant and rod mill departments, which have been running pell mell night and day and part of Sunday for the past year and a half. The company have put in natural gas throughout all their departments and started up in full on the 23d, with prospects of a good run. The annual meeting of the stockpartments and started up in run on the 25d, with prospects of a good run. The annual meeting of the stockholders was held at Ashland last week and the following directors were elected: John G. Peebles and A. T. Johnson of Portsmouth, W. W. Franklin of Columbus, B. H. Burr and Oscar Richey of Ironton, E. C. Means, Robert Peebles, T. M. Adams and Ironton A. Kelly of Ashland. The Board of Directors organized by electing the following officers: Ironton A. Kelly, president; T. M. Adams, vice-president; B. H. Burr, secretary, and L. R. Putnam,

The Petroleum Iron Works Company, Washington. Pa., manufacturers of plate work of all kinds, have re-ceived an order from the Risdon Iron & Locomotive Works of San Francisco, Cal., for a tank 95½ feet in diameter and 28 feet high, with steel riveted roof, having a capacity of 35,000 barrels of 42 gallons. The tank will contain 110 tons of material, including necessary rivets and bolts. The contract is for all material ready to set up on cars at Washington.

## The Loss of Strength in Steel Rails.

The serious accident to the Scotch express at St. Neots on December 24, 1895, due to the compound fracture of two rails, was one of the causes leading to the appointment by the British Board of Trade of a committee inquire to what extent of loss of strength in steel rails is produced by their prolonged use on railways under varying conditions, and what steps can be taken to prevent the risk of accidents arising through such loss of strength." The committee were appointed in May. 1896. vent the risk of accidents arising through such loss of strength." The committee were appointed in May, 1896, but their report has just been issued. It is signed by all the members—Lord Blythswood, chairman; Sir Benjamin Baker, Sir Isaac Lowthian Bell, Professor W. R. Dunstan, Professor A. B. W. Kennedy, Major F. A. Marindin, E. P. Martin, E. Windsor Richards, Sir W. C. Roberts-Austen, Professor T. E. Thorpe, and Professor W. Cawthorne Unwin. The report with its twelve appendices covers 124 pages, and includes several plates of pendices covers 124 pages, and includes several plates of microphotographs, autographic records of tests, &c. It must, however, says an English contemporary, be regarded as a summary of experiments and information rather than as a series of recommendations for future practice.

The committee, in the first instance, addressed a communication to the principal railway companies, asking them to assist by supplying the results of any experiments made on worn or broken rails, and by furnishing specimens of worn and broken rails should the commit-tee decide to carry out any experiments.

The question of the loss of strength in steel rails is one

which has excited much attention abroad. In Austria-Hungary and also in Germany "trial stretches" (versuchstrecken) have been established on the lines of companies belonging to the Association of German Railway Boards, to which all railway companies in those two countries and some in Holland and Belgium belong. On each of these trial stretches rails from one cast of steel, of which the chemical composition and physical qualities have been ascertained, are laid, and are carefully observed. These stretches were established in 1891, but so far the time has not been sufficient to enable the association to draw practical conclusions from the result of the observations. In Austria-Hungary, on the State railways, a regulation has been made requiring the renewal ways, a regulation has been made requiring the renewal of rails when through wear they have suffered a diminution in hight of 6 mm., the ordinary hight of a rail on these railways being 125 mm., but in Germany no precise limit has been fixed. Two reports, dealing mainly with the effects of corrosion, were received from the Italian Government, and further information was received from the Belgian, Russian and United States governments.

The committee decided to undertake a series of experiments on worn and broken rails, of which a number should be subjected to the ordinary falling weight tests and selected specimens to tensile and bending tests, the latter being chemically analyzed and examined by the A considerable recent methods of photomicrography. number of rails were tested in the presence of members of the committee at the Northeastern Railway Company's works at Gatshead, and at the Lancashire & Yorkshire Railway Company's works at Castleton, near Rochdale, and from them a selection of 16 rails for fur-ther investigation was made by Professor Unwin and Windsor Richards. The Lancashire & Yorkshire and Northeastern railway companies supplied specimens of the chosen rails cut in a suitable manner for the further investigations proposed, which were apportioned among members of the committee as follows: Mechanical tests, Professor Unwin; chemical analysis, Dr. Thorpe; photomicrographic examination. Sir. W. Roberts Austen. micrographic examination, Sir W. Roberts-Austen; atmospheric corrosion tests, Professor Dunstan.

Professor Unwin gives the result of transverse, hard-

ness and tension tests on each of the selected rails, and also Tetmajer's and Dormus' coefficients of quality for each rail. Dr. Thorpe gives an analysis of each of the 16 selected rails, and also of the rail, the fracture of which on the Great Northern Railway at St. Neot's in December, 1895, led to the appointment of the committogether with a summary of the methods employed

in his analysis.
Sir Willam Roberts-Austen describes the method of examining the rails by photomicrography, the effect of the various constituent elements and the manner in which they combine; he also compares the mechanical, chemical and photomicrography results of the experiments on the selected rails. His examination of the St. Neot's rail disclosed the presence of patches of "Martensite" in portions of the rail, and in order to ascertain whether this, the characteristic constituent of hardened steel, can be produced by other means than by quenching the steel from a high temperature, Sir William Roberts-Austen has examined a portion of the tube of a 4.7-inch quick firing gun, making a study of the nature of the change produced by the action of the explosive. He is satisfied that the conditions which prevail in the gun do produce changes in the steel which resemble the local

changes in structure of the St. Neot's rail, but do not enable the local patches of Martensite occurring in this rail to be attributed to any other known cause than the quenching of the steel from a high temperature. The structure of this rail is evidently abnormal.

Professor Dunstan gives an account of the manner in which atmospheric corrosion affects steel, having regard to its chemical composition and the nature of its structure. The results of his experiments are illustrated by selected photographs of the speciality corroded surfaces of certain of the rails chosen by the committee. These results show how important it is that the condition and mode of distribution of the constituents of steel, and not merely their nature and quantity as determined by chemical analysis, should be taken into account in judging of the suitability of the metal for the manufacture of rails. Local atmospheric corrosion is often determined by the presence of patches of irregularly distributed impurity. Windsor Richards, in addition to preparing an account of the falling weight tests, has drawn certain deductions from them, and in his conclusions refers to the effects on rails of incipient small cracks forming nicks. Mr. Martin has conducted some experiments on rails in which fissures or nicks have been purposely made by a cutting tool.

In addition to these experiments conducted by the committee, Sir Lowthian Bell has tested a very large number of rails, and he has favored the committee with a memorandum thereon, in which he calls attention to the small proportion of rails broken annually, which he estimates as only one to every 25,000 laid down, and he also discusses the effect on a rail of the rolling weight of a train, and gives the vertical and lateral deflections due to the passage of a train at different rates of speed.

The committee requested the chemical and engineering members to prepare criticisms on the evidence in the possession of the committee from the chemical and mechanical points of view respectively. Sir William Roberts-Austen and Dr. Thorpe accordingly prepared a memorandum on the chemical aspect of the evidence before the committee, and their own experimental work. In this memorandum they come to the following conclusions: The evidence before the committee indicates what the limiting proportions of carbon, sulphur, phosphorus, manganese and silicon should be. As regards the influence of phosphorus, it is pointed out that, in a broad sense, brittleness of steel does not depend on the total amount of phosphorus present, as that element may exist in steel in at least two different forms, one of which is comparatively innocuous. It is very important that all who are responsible for the manufacture or use of steel rails should realize that steel is not the homogeneous mass it is often supposed to be, but possesses a complex structure. The nature of this structure will vary greatly with the mechanical and thermal treatment to which the metal has been subjected. The durability of the rail depends in no small measure on its structure, which may, if the specimens of steel have been suitably prepared, be revealed by the microscope. The peculiar structure of the St. Neots rail, for instance, can be exactly limitated.

Professor Unwin, with the assistance of Sir Benjamin Baker and Professor Kennedy, prepared a memorandum reviewing from the mechanical point of view the information before the committee. In this memorandum the following conclusions are arrived at: The preponderance of fractures near the ends of rails seems to show that the greater straining action due to discontinuity at the joint is a contributing cause of fracture, and this can be remedied by adopting rails of sufficient strength with webs of ample thickness and secure types of fastening, and by care that no looseness arises in service. The fact that worn rails are improved in strength and ductility by annealing proves that part of the deterioration of rails in Service is of the nature of what is sometimes termed "fatigue." It appears certain that in some cases fractures of rails have been due to fissures formed during service. How far the minute transverse fissures, very often noticed in the running surface of old rails, give rise to these larger induced flaws requires further investigation. It is not likely that they usually spread into the substance of the rail, because they are common in old rails, and fractures would be more frequent than they are if that were the case. Also, the evidence as to the existence of visible flaws or defects in the fractured surface of rails is very conflicting. In some cases, undoubtedly, the combined effects of the weakening of a rail by wear and corrosion, possibly also increased straining action from defective packing of sleepers, and the presence of a flaw or fissure of not inconsiderable size, have led to fracture of the rail. That such defects appear most commonly in the head of the rail is evidence to a certain extent that they are induced by the hammer hardening of the top surface. It is very desirable that the mechanical tests to which rails are subjected should be as far as possible standardized in connection with the

weight, the section and the chemical composition of the rail.

With these conclusions the committee agree, and as regards chemical composition they do not think it desirable to insist upon too high a proportion of carbon, manganese or silicon in the steel, having regard to the ordinary contingencies of manufacture, and the greater susceptibility of high carbon steel to thermal influences.

## MANUFACTURING.

#### Iron and Steel.

The report that the Carpenter Steel Company of Reading, Pa., had received a rush order from the Government for 600 12lnch navy shells is untrue. No such order has been placed.

The new Bessemer steel plant of the Republic Iron & Steel Company, at Youngstown, Ohio, is now ready to be started up, Some detail work remains to be done, but it is probable the plant will be started just as soon as the wage scales for the puddling and bar iron mills have been arranged.

Reports were current in Pittsburgh last week that there was prospective litigation between the American Steel & Wire Company and several blast furnaces belonging to the Bessemer Furnace Association, over pig iron contracts, the claim being that the American Steel & Wire Company were not furnishing shipping directions on iron that should have been taken out some time since. We can state officially that there will not be any litigation, as the matter of the contracts has been arranged to the satisfaction of both buyer and seller.

A number of puddlers at the plant of Moorhead, Brother & Co., at Pittsburgh, who went out on strike, have returned to work. This firm have reduced wages of their puddlers from \$6 to \$4.80 a ton, and made corresponding reductions in the finishing department.

At the recent annual stockholders' meeting of the Cumberland Iron & Steel Shafting Company, Cumberland, Md., the following officers were re-elected: Merwin McKaig, president; W. J. Muncaster, vice-president and general manager, and Albert Charles, secretary and treasurer.

The Palmer Steel & Iron Company, Muncle, Ind., are improving the opportunity afforded them by the July shut down to make thorough repairs in their rolling mills. The addition of an 8-inch mill is contemplated, but has not yet been fully decided.

The new rolling mill company under consideration for some time at Cambridge, Ohio, organized last week and will be known as the Cambridge Rolling Mill Company. The stock has been subscribed by the following Cambridge citizens: Dr. I. H. Sheppard, A. A. Taylor, W. J. Gillespie, J. P. Spence, C. S. Sheppard and J. B. Taylor. The following officers have been elected: Dr. I. H. Sheppard, president; W. J. Gillespie, vice-president; C. S. Sheppard, treasurer; L. C. Taylor, secretary. The above officials, together with A. A. Taylor, J. B. Taylor and J. P. Spence will constitute the board of directors.

All departments of the Homestead Steel Works of the Carnegle Steel Company at Homestead are in full operation this week.

Zug & Co., Limited, of Sable Iron Works of Pittsburgh have signed the Amalgamated Association puddling and bar iron scales and also the sheet scale. The concern are manufacturers of high grade iron bars and black and galvanized sheets.

The Amos & Davis Iron Company of Ironton, Ohio, operating Versailles Furnace, have applied for a receiver and E. S. Culbertson has been appointed. Inability to meet obligations was the cause.

The statement that Nos. 1 and 2 Monongahela furnaces of the National Tube Company, at McKeesport, will be torn down and new stacks erected is untrue. It is probable that No. 1 Furnace will be taken out this fall and relined. When this is done the furnace will be increased to a 90-foot stack and a new skip hoist added. Some other improvements of a minor nature will also be made. This will naturally have the effect of increasing the capacity of the stack and will bring it up to possibly 400 tons a day. The same course will be pursued with regard to No. 2 Furnace, when it is found necessary to take it out of blest

The Lorain Steel Company, against whom the General Electric Company have just obtained a judgment for damages for infringement on the patent of the Thomson-Houston Electric Company on improved electric motor regulators, is one of the constituent companies of the Federal Steel Company. The plant consists of steel works and rolling mills, besides foundry and machine shops, complete for the manufacture of switches, electric motors and appliances for street railroads.

Furnace B of the Edgar Thomson group of the Carnegie Steel Company, at Bessemer, Pa., has been taken out of blast. The furnace will be rebuilt and enlarged, and the capacity brought up to 500 tons a day or more. The stack will be equipped with automatic top filling device, which will do away with the services of top fillers.

The salaried employees of Haselton Works of the Republic

Iron & Steel Company, at Youngstown, Ohio, have been notified that commencing August 1 their services will not be needed, and that all can look for other employment. This is taken to mean that these works will not be operated for some time.

At the recent annual stockholders' meeting of the Rome Merchant Iron Mill, Rome, N. Y., the following officers were elected: President, Jim Stevens; vice-president, S. B. Stevens; secretary and treasurer, C. W. Lee.

The annual meeting of the stockholders of the Ohio Iron & Steel Company, operating Mary Furnace at Lowellville, Ohio, was held last week, and directors were elected as follows: Thos. H. Wells, John C. Wick, Myron C. Wick of Youngstown; Thad. F. Woodman of Chicago; Samuel L. Mather of Cleveland; Fred H. Wick and Robert Bentley of Youngstown. The directors organized as follows: Thos. H. Wells, president; John C. Wick, vice-president; Fred. H. Wick, treasurer, and Robert Bentley, secretary and general manager. The business of the Ohio Iron & Steel Company for the past year shows the largest profit of any one year in the history of the company. Considerable new equipment has recently been added to the furnace and its capacity increased. It is now in first-class condition for a long run.

Phillips, Nimick & Co., operating the Sligo Rolling Mills, Pittsburgh, Pa., manufacturers of plates, have signed the Amalgamated Association scale.

#### Machinery.

The annual meeting of the stockholders of the Youngstown Foundry & Machine Company, Youngstown, Ohio, was held last week. The old board of directors was re-elected. Officials were elected as follows: Thos. Parrock, president; W. J. Wallis, vice-president, and Frank A. Williams, secretary and treasurer. It was decided at the directors' meeting to go ahead with the work of equipping the new machine shop with the most modern machinery that can be found, and this shop will be in operation at an early date. The operations of the Youngstown Foundry & Machine Company for the past year were very successful; in fact, that concern had the best year in their history. They manufacture light and heavy machinery castings of every description, and make a specialty of sand and chilled rolls.

The Monongahela Consolidated Coal & Coke Company of Pittsburgh will begin the erection of a power house within the next 30 days which, when completed, will furnish power for the mines at Camden, Streets Run and Dravosburg. The latest mining machinery known to the coal mining business will be placed in the mines named above, and they will be lighted with electric lights. New electric locomotives will be used, instead of mules to haul the coal to the mouth of the mines. It is said this means the displacement of at least 2000 miners in the district near McKeesport, Pa.

The Straight Line Engine Company, Syracuse, N. Y., recently rebuilt a portion of their foundry, replacing an old brick and wood structure by a continuation of the iron one built in 1893. Business has been very good, with steady work all through the year, but has fallen off somewhat lately. A couple of months ago they employed something over 200 men, and now 190; quite double the number employed a year ago.

The Westinghouse Electric & Mfg. Company of East Pittsburgh, Pa., have secured a contract for the supply of the electric equipment required for an extension of the plant of the local electric company in Seoul, the capital of Corea. The contract, which is valued at \$21,000, calls for two 120 kw. two-phase belted alternating current generators, three 62½ kw. and two 37½ kw. static transformers; also one 75 kw. rotary transformer, together with a number of converters for incandescent lights, are lamps, a switchboard, together with all accessories, &c. Three complete lighting sets have just been shipped for utilization in the machine shops of the Chinese Eastern Railroad. These orders are in addition to the contract obtained by the Westinghouse Company for the lighting of the stations along the Great Manchurian road.

Last week the stockholders of the Niles Boiler Works met at Niles, Ohio, and elected the following officials: R. G. Sykes, J. H. Orwig, E. A. Gilbert, D. S. Strickland and W. Aubrey Thomas. The directors then met and chose the following officers: R. G. Sykes, president; W. Aubrey, vice-president; C. B. Sell, secretary and treasurer; J. H. Orwig, general manager, and E. A. Gilbert, engineer.

The York Mfg. Company of York, Pa., manufacturers of ice making and refrigerating machinery, are to supply the refrigerating machinery of 40 tons capacity to the York Refrigerating & Fruit Company, recently organized in that city, and also the refrigerating apparatus of 25 tons capacity to the Rochester Packing & Cold Storage Company, who are about to erect a cold storage plant in Rochester, N. Y.

#### Hardware.

Extensive improvements have been made to the plant of the Frazer & Jones Company, Syracuse, N. Y., including new and improved power, a new brass foundry and additional malleable works. From last October to May it was necessary to operate the works day and night in order to keep up with the orders. At the present time there is a let up in activity, but that will

only continue for a few weeks, when business will be resumed with full force. They employ 487 hands.

The Nagley Mfg. Company, Lyons, N. Y., report that their trade on transplanting machines and pruning shears has been very satisfactory this season. They have more orders for to-bacco shears and needles at this date than any one year in the last five. There seems to be more of a demand for tools this year than ordinarily.

#### Miscellaneous.

The Lunkenheimer Company, brass founders, Cincinnati, will erect a \$22,000 factory on Longway avenue, extending from Tremont to Waverley avenue, Fairmount. It will be two stories high and will contain over 40,000 square feet. It will be run. In addition to their present factory and will give them very greatly increased facilities, which were badly needed, and will enable them to make prompt shipments.

A bill of voluntary assignment was filed in the United States District Court by the Vulcan Foundry Company of Pawtucket, R. I., July 18. Half the stock is held by Providence and Worcester parties. The company was incorporated in 1897 with a capital stock of \$100,000, and at the start over 100 hands were employed. Since the iron molders' strike a year ago business has been dull. Gardiner Sims of Providence, who served during the war with Spain as chief engineer of the repair ship "Vulcan," was connected with the concern. The plant is an excellent one, thoroughly equipped with all modern accessories.

The National Elevator & Machine Company, Honesdale, Pa., are erecting a new foundry,  $66 \times 96$  feet, and 18 feet high. Their other buildings have lately been overhauled and put in first-class shape.

The Union Switch & Signal Company of Pittsburgh have secured a large contract for the supply of special frogs and switches, which will be shipped as soon as possible to the Cape Government railway. It is the first order of the kind that this concern have secured for South Africa, and follows the recent order for rails secured by the Carnegie Steel Company. The contract of the Union Switch & Signal Company is understood to be worth several hundred thousand dollars. It was secured through Sir Douglas Fox, who acts as consulting engineer expert for several of the British and colonial railways. It was placed by F. Stuart Williamson, who represents Sir Douglas Fox in New York.

The scheme which has been under way for some months of organizing the firms of Atwood & McCaffrey, Best, Fox & Co., Best Mfg. Company, Wilson-Snyder Mfg. Company and Pittsburgh Valve & Machine Company into an organization to be known as the Pittsburgh Valve & Construction Company, has been abandoned.

The New York Carbide Generator Company has been incorporated in New York. The company purpose to manufacture and sell machines for producing gas and to make and sell gas. The capital is \$500,000. The directors are: George S. Bonner and C. L. Kingsley of New York, and Walter W. Wood

of East Orange.

The report that the Youngstown works of the American Bridge Company, at Youngstown, Ohio, would be dismantled and removed to some other location, probably the Pittsburgh district, is without foundation. It is said to be the intention of the American Bridge Cmpany to operate this plant as heretofore.

The Pittsburgh Coal Company have placed an order with the Youngstown Car Mfg. Company, Youngstown, Ohio, for 100

The Pennsylvania Lead Company of Pittsburgh have fied a petition in the courts for dissolution. The assets of the company are \$202,182.11, to be distributed as follows: J. E. Schwartz, \$191,974.65; H. E. Anderson, D. W. Doyle estate, J. L. Schwartz and F. N. Schwartz, \$2001.82 each; George Fauce, \$200.

The Allegheny Plate Glass Company have secured a charter and will erect a plate glass factory at Creighton, Pa., on the Allegheny River. The nominal capital is \$1000, but this will be increased later to probably \$500,000. Among those interested in the new company are Charles B. McLean of the Lincoln National Bank of Pittsburgh, H. M. Brackenridge of the James H. Baker Mfg. Company, and Frank S. Brockett, formerly superintendent of the Charlerol and Creighton plants of the Pittsburgh Plate Glass Company.

The fan house at the Youngstown Works of the H. C. Frick

The fan house at the Youngstown Works of the H. C. Frick Coke Company was burned on Monday night, July 23. The plant will have to be closed for about two weeks until a new engine and fan can be installed.

engine and fan can be installed.

The Atherton Mfg. Company, Providence, R. I., were incorporated on the 24th inst., with a capital stock of \$3000. The company are to manufacture and sell all kinds of machinery and novelties.

Jones & Laughlins of Pittsburgh are about to build several steel barges, each of 12,000 tons capacity, to carry their furnace slag from Pittsburgh up the Monongahela River to bottom lands above the company's mines at Coal Centre. The slag is to be used for filling land to be reclaimed.

Jul

## The Iron and Metal Trades.

The gravity of the situation is indicated by the arrangements which have been made for a conference of the leading Steel and Bessemer Pig Iron interests, which is to be held in the office of the Federal Steel Company, Chicago, to-morrow (Thursday) morning at 10 o'clock. The call is signed by E. H. Gary of the Federal Steel Company, C. M. Schwab of the Carnegie Steel Company, and Joseph G. Butler, Jr., representing the Bessemer Furnace Association, and states that at a former meeting of the presidents of the leading Steel companies it was thought advisable to call this meeting to go over the situation and see what can be done to improve it. The plan proposed is to cut down production as much as possible. Every blast furnace controlled by these interests is to be closed under agreement for one month, the Federal Steel Company, Carnegie Steel Company and other large companies agreeing to do this if the others will. The success of such a plan will depend upon the unanimity with which it is accepted. The dissent of a single important interest would probably be fatal.

The week just closing has developed considerably more business than its predecessors, and this has given a mild sort of encouragement to manufacturers. Nevertheless the increase in the volume of business is not great enough by any means to satisfy the manufacturers, who need a steady stream of orders to keep their mills running or their blast furnaces free from accumulating heavy stocks of Pig Iron. The sales made have in nearly every instance been accomplished at the still further sacrifice of prices. A lower range of prices than that of last week now prevails through almost the whole line. It is assumed by some that the bottom is now in sight because present prices in many cases represent actual cost of production, but this has often proved to be a delusion. Prices will continue to settle until the supply falls below the demand.

We have information of heavy transactions in Pig Iron for export. Our Birmingham correspondent reports sales in that district of at least 40,000 tons, and a Pig Iron house outside of the district reports sales of 7000 tons. Much more export trade could be done, not only in Pig Iron but in finished products, if vessel room could be secured, but it is difficult at present to arrange for ocean carriage and freight rates are also nearly prohibitory.

Restriction of production is proceeding quite rapidly, more blast furnaces having recently blown out, while others are fast getting into shape for suspending operations. It is likely now that the Western Bar mills will remain closed for considerably longer than had been expecced, in view of the fact that the manufacturers and the Amalgamated Association have locked horns over the wages scale for the coming year. The association have positively refused to make any modification of the scale formulated at Indianapolis, and the manufacturers have just as positively refused to accept it. The closing of so many mills should have an effect on prices of Bars, but Steel Bars have soid within the week at lower rates than the previous week.

A very interesting item of news is the announcement that the Carnegie Steel Company are about to enter into the manufacture of Rods on a large scale, and that they may also decide to manufacture Hoops, Bands and Cotton Ties.

Some failures of foundrymen have occurred in New York and New England, but they are not regarded as indicating any general weakness in the trade.

## A Comparison of Prices.

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|----------|-----------|---------|--------------|----------------|---------------|----------|------|
| Advances | Over      | the     | Previous     | Month          | in            | Heavy    | Type |
|          |           | De      | clines in    | Italies.       |               |          |      |

|                                                             | July 26, J     |                | une 27, 1900.    | July 26,<br>1899. |
|-------------------------------------------------------------|----------------|----------------|------------------|-------------------|
| PIG IRON:                                                   | 1000.          | 1000.          | 20001            | 2000,             |
| Foundry Pig, No. 2, Standard, Phil-                         |                |                |                  |                   |
| adelphia                                                    | \$16.25        | \$15.50        | \$18.00          | 20.00             |
| Foundry Pig, No 2, Southern, Cin-                           |                |                |                  |                   |
| cinnati                                                     | 16.00          | 16.50          | 17.75            |                   |
| Foundry Pig, No. 2, Local, Chicago.                         | 17.50          | 18.00          | 19.50            | 19.50             |
| Bessemer Pig, Pittsburgh<br>Gray Forge, Pittsburgh          | 16.00          | 17.00          | 19.00            | 20.75             |
| Gray Forge, Pittsburgh.                                     | 15.00          | 15.50          | 17.00            | 17.50<br>21.50    |
| Lake Superior Charcoal, Chicago                             | 21.00          | 22.00          | 22.50            | 261.303           |
| BILLETS, RAILS, ETC.:                                       | 40.00          | 00.00          | 25.00            | 34.00             |
| Steel Billets, Pittsburgh                                   | 19.00<br>22.50 | 20.00<br>22.50 | 28.00            | 86.00             |
| Steel Billets, Philadelphia                                 | 30.00          | 85.00          | 85.00            | 30,00             |
| Wire Rods, Western Mill<br>Steel Rails, Heavy. Eastern Mill | 35.00          | 85.00          | 35.00            | 29.00             |
| Spikes, Tidewater                                           | 2.10           | 2.15           | 2.15             | 2.00              |
| Splice Bars, Tidewater                                      | 2.00           | 2.00           | 9.00             | 1.90              |
| OLD MATERIAL:                                               |                | 10.00          |                  |                   |
| O. Steel Rails, Chicago                                     | 9.50           | 9.50           | 11.00            | 15.00             |
| O. Steel Rails, Philadelphia                                | 13.00          | 13.00          | 17.00            | 17.00             |
| O. Iron Rails, Chicago                                      | 12,50          | 12.50          | 14.00            | 19.00             |
| O. Iron Rails, Philadelphia                                 | 15.00          | 15.50          | 17.00            | 20.50             |
| O. Car Wheels, Chicago                                      | 18.00          | 1×.00          | 18.00            | 15.50             |
| O. Car Wheels, Philadelphia                                 | 17.00          | 17.00          | 18.00            | 16.50             |
| Heavy Steel Scrap, Chicago                                  | 9.00           | 9.00           | 11.00            | 18.00             |
| FINISHED IRON AND STEEL:                                    |                |                |                  |                   |
| Refined Iron Bars, Philadelphia                             | 1.37           | 1.30           | 1.50             | 2.00              |
| Common Iron Bars, Youngstown                                | 1.30           | 1 35           | 1.50             | 1.85              |
| Steel Bars, Tidewater                                       | 1 30           | 1.40           | 1.60             | 2.20              |
| Steel Bars, Pittsburgh                                      | 1.10           | 1.15           | 1.40             | 2.05              |
| Tank Plates, Tidewater                                      | 1.31           | 1.30           | 1.55             | 2.65              |
| Tank Plates, Pittsburgh                                     | 1.10           | 1.15           | 1.30             | 2.50              |
| Beams, Tidewater                                            |                | 2.05<br>1.90   | 2.05<br>1.90     | 2.00              |
| Beams, Pittsburgh                                           | 1.90           | 1.95           | 1.95             | 2.15              |
| Angles, Pittsburgh                                          |                | 1.80           | 1.80             | 2.00              |
| Angles, Pittsburgh<br>Skelp, Grooved Iron, Pittsburgh       | 1 86           | 1.25           | 1.45             | 2.35              |
| Skelp, Sheared Iron, Pittsburgh                             | 1.85           | 1.25           | 1.45             | 2.50              |
| Sheets, No. 27, Chicago                                     | 3.15           | 8.10           | 8.10             | 3.25              |
| Sheets, No. 27, Pittsburgh                                  | 2.95           | 2.90           | 2.90             | 3.00              |
| Barb Wire, f.o.b. Pittsburgh                                | 2.80           | 2.80           | 2.80             | 8.10              |
| Wire Nails, f.o.b. Pittsburgh                               |                | 2.20           | 2.20             | 2.50              |
| Cut Nails, Mill                                             | 1 95           | 1.95           | 2.05             | 2.20              |
| METALS:                                                     |                |                |                  |                   |
| Copper, New York                                            | 16.37          |                |                  | 18.50             |
| Spelter, St. Louis                                          | 4.12           |                | 4.05             | 5.65              |
| Lead, New York                                              |                | 4.00           | 4.25             | 4.55              |
| Lead, St. Louis,                                            |                | 3.95           | 4.20             | 4.60<br>31.75     |
| Tin, New York                                               | 33.50<br>9.50  | 34.00<br>9.625 | 30,25<br>6 9,623 |                   |
| Nickel, New York                                            | 55.00          |                | 55.00            | 36.00             |
| Tin Plate, Domestic Bessemer, 100                           | )              | 00.00          | 50.00            |                   |
| lbs., New York                                              | 4.84           | 4.84           | 4.84             | 4.5%              |

## Chicago. (By Telegraph.)

Office of The fron Age, 1205 Fisher Building, CHICAGO, July 25, 1900.

Fully 50,000 tons of Steel, mainly Bars, were sold in this market last week, mostly for extended deliveries, principally to agricultural implement makers and mainly at prices below open quotations. The inquiries now in the market are for tonnage considerably in excess of that figure, one local prospective purchaser having asked bids for 40,000 tons of material. Most of the business transacted has been in good round lots, ranging from 10,000 tons down. The army of small buyers are onlookers as yet, with increasing symptoms of a desire to buy. Some sellers say they are importuned to sell their customers just when the right time to buy arrives, a responsibility which they do not covet. These buyers are holding back through fear that later they may purchase at lower prices. They need the material, but want to be on a parity with competitors. Plates share to some degree the liveliness of Pers but extra preducts be seen. degree the liveliness of Bars, but other products have not, as a rule, reached the acute stage, the ostensible reason being that the confidence is still lacking in the stability of prices. In Bars some sellers discern a strengthening tendency. They say prices quoted a week ago will not be repeated, but in other products the tendency continues downward with few, if any, exceptions.

Pig Iron.-The Pig Iron market is peculiar in that no one knows just what the market is. Some sellers are high and dry above current business, limiting their ac-tivities to the forwarding of Iron on old contracts. Other makers are gathering in whatever small contracts are abroad. Still others are bent upon the difficult task of finding out the proper range, so as to be in line if they want to, but their efforts meet with scant success owing to the clusiveness of this line of values. But quite recently there has appeared among one or two sellers who heretofore have been indifferent to business a sudden desire to learn just what is the matter with the buyers and just what price will bring them into the market; in other words, an unwillingness to continue the late policy of inactivity. It is not meant by this that they will make deep incisions in current prices. The market is thus in the estimation of some faction approaching a critical stage, though all interests do not take that view of it. No large orders have been placed this week, but of the small lot business there has been fully as much as at any time in recent months, and perhaps more. Hovering around and below the market are a great many orders for future shipments. These coming orders are shy and keep at a respectable distance, dipping only at times into the arena on a quest of discovery. What is learned about prices is unsatisfactory and the buyers retire with promises to come again a little later. Quotations are as follows:

| Lake         Superior         Charcoal         \$22.50 to         \$22.00 to           Local         Coke         Foundry,         No. 1         18.00 to         18.50 to           Local         Coke         Foundry,         No. 2         17.50 to         18.00 to           Local         Coke         Foundry,         No. 2         16.50 to         17.00 to           Local         Scotch,         No. 1         18.50 to         19.00 to         19.00 to           Ohlo         Strong         Softeners,         No. 1         19.00 to         19.50 to           Southern         Silvery,         according         to         Silicon         19.35 to         20.35 to           Southern         Coke,         No. 1         17.85 to         18.85 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Local Coke Foundry, No. 2         17.50 to 18.00           Local Coke Foundry, No. 2         16.50 to 17.00           Local Scotch, No. 1         18.50 to 19.00           Oblo Strong Softeners, No. 1         19.00 to 19.50           Southern Silvery, according to Silicon, 19.35 to 29.35                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Local Coke Foundry, No. 2     16.50 to 17.00       Local Scotch, No. 1     18.50 to 19.00       Ohlo Strong Softeners, No. 1     19.00 to 19.50       Southern Silvery, according to Silicon. 19.35 to 29.35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Local Scotch, No. 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Ohio Strong Softeners, No. 1 19.00 to 19.50 Southern Silvery, according to Silicon. 19.35 to 29.35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Southern Silvery, according to Silicon. 19.35 to 20.35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Southern Silvery, according to Silicon. 19.35 to 20.35<br>Southern Coke, No. 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Southern Coke, No. 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Southern Coke, No. 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Southern Coke, No. 3 16.35 to 17.35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Southern Coke, No. 1 Soft 17.85 to 18.85                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Southern Coke, No. 2 Soft 17.35 to 18.35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Foundry Forge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Gray Forge and Mottled 15.60 to 16.60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Southern Charcoal Softeners, according                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| to Silicon                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Alabama and Georgia Car Wheel 22.85 to 23.85                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Malleable Bessemer 19.00 to 20.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Standard Bessemer 20.00 to 21.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Jackson County and Kentucky Silvery,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 8 per cent. Silicon 25.50 to 26.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

Bars.—The Bar situation is somewhat complicated by the uncertainty respecting the time Iron mills will resume operations. The prospects for an immediate agreement with the Amalgamated Association are not flattering, owing, it is said, to some keen competition in prices for Bars having been made during the past few days which were very attractive to the buyers, and the latter have not hesitated to show their appreciation. Result, a heavy volume of business, some sellers being rather surprised at the tonnage they now find on their books. Exact statements of the business transacted are not attainable, but 50,000 tons is pronounced a moderate estimate by two of the principal sellers. There is a large amount of business still in the market, one of the largest implement makers of Chicago having inquired for 40,000 tons. From mill quotations on moderate sized lots are 1.30c. to 1.35c for both Iron and Steel. Store quotations are 1.75c. for Iron and Steel and 1.90c. for Hoops.

Structural Material.—Nothing of a notable character has developed in Shapes, but the same excellent inquiry in a small way continues without abatement, making in the aggregate a nice tonnage. It is general in its character and destination. Mill shipments are quoted as follows: Beams, Channels and Zees, 15 inches and under. 2.05c.; 18 inches and over, 2.15c.; Angles, 3 inches and over, 1.95c.; Angles under 3 inches, 1.40c.; Tees, 2.10c.; Universal Plates, 1.40c. From local yards small lots of Beams and Channels are quoted 2.55c. to 2.75c.; Angles, 2.20c. to 2.30c. rates, and Tees, 2.40c. to 2.60c.

Plates.—In number orders from store are above the normal; in tonnage they are perhaps below the normal. Buyers are slow, repeated lessons having impressed upon them the falling nature of the past and present markets. Some have become quite pessimistic in their views and it will require a decided strength of prices to win them back to a rational belief. Mill business is moderately good, one recent order placed here being for 1200 tons. Quotations are as follows: Tank, 1.35c, to 1.40c., and Flange, 1.70c. to 1.80c. From store Tank is quoted 1.65c, to 1.80c., and Flange, 1.90c, to 2c.

Merchant Pipe.—Modest improvement in demand is reported, general in its character and composed mainly of small orders. Prices are unchanged as follows:

| Sizes.                             | Black.  | Galvanized. |
|------------------------------------|---------|-------------|
| 1/4 to 1/2 inch and 9 to 12 inches | 61 2-10 | 48 2-10     |
| % to 8 inches                      | 66 2-10 | 53 2-10     |

Sheets.—Galvanized Sheets are slightly lower. From store they are quoted 70 and 12½. Trade is of moderate volume, but not notably so. For Black Sheets demand is fair. Black Sheets are 3.40c. to 3.50c. for No. 27. Heavy Sheets, Nos. 10 to 14, are quoted 2.10c. to 2.30c. from store, and No. 16, 2.60c. to 2.80c.

Merchant Steel.—Large consumers of Merchant Steel are in evidence, but are slow in closing out. They speak encouragingly of their own expected trade, but are looking for assurances that firmness has been attained before buying material. Activity in the early future is deemed not unlikely. Mill shipments, Chicago delivery, are quoted as follows: Smooth Finished Tire, 2c. to 2.10c.; Open Hearth Spring Steel, 2.50c. to 2.75c.; Toe Calk, 2.75c. to 3c.; Sleigh Shoe, 2c. to 2.25c.; Cutter Shoes. 2.75c. to 3c.; Ordinary Tool Steel, 7c. to 7½c.; Special, 13c. and upward.

Rails and Track Supplies,—There has been this week a good trade in Track Fastenings on a level somewhat revised. Rails are without change. The heavy buyers of last winter, it is said, are without exception specifying freely on their large contracts, with every prospect that

track laying this season will be as large as expected. Nominally prices are as follows: Rails are \$35 to \$37 for Standard Sections, and \$30 to \$35 for Light Rails. Splice Bars, 1.50c. to 1.60c.; Splikes are quoted 1.80c. to 1.90c.; Bolts, with Hexagon Nuts, 2.40c. to 2.50c.; Square Nuts, 2.30c. to 2.40c.; Links and Pins, Steel or Iron, 2c.

Old Material.—Conditions vary little from those of a week ago. Quiet reigns, with evidences of remote recovery. Offerings come largely from the chief makers and are absorbed at prices slowly receding, dealers being the purchasers. The following are approximate quotations per gross ton:

| Old Iron Rails\$12.50 to 8             | \$13.00 |
|----------------------------------------|---------|
| Old Steel Rails, mixed lengths 9.50 to | 10.00   |
| Old Steel Rails long lengths 10.50 to  | 11.00   |
| Relaying Rails 20.00 to                | 22.00   |
| Old Car Wheels 18.00 to                | 19.00   |
| Heavy Melting Steel Scrap 9.00 to      | 10.00   |
| Mixed Steel 8.00 to                    | 9.00    |
| Iron Fish Plates                       | 13.00   |
| Steel or mixed do 11.00 to             | 12.00   |
| Iron Car Axles 16.50 to                | 17.50   |
| Steel Car Axles                        | 16.00   |
| No. 1 Railroad Wrought 12.00 to        | 13.00   |
| No. 2 Railroad Wrought 10.50 to        | 11.00   |
| Shafting, Iron and Soft Steel 15.00 to | 16.00   |
| No. 1 Wrought 9.00 to                  | 9.50    |
| No. 1 Country Wrought 8.00 to          | 8.50    |
| No. 1 Mill                             | 7.50    |
| No. 2 Mill 5,50 to                     | 6.00    |
| No. 1 Busheling 8.00 to                | 8.50    |
| No. 2 Busheling 7.00 to                | 7.50    |
| Iron Car Axle Turnings 8.00 to         | 8.50    |
| Soft Steel Axle Turnings 7.00 to       | 8.00    |
| Machine Shop Turnings 6.50 to          | 7.00    |
| Wrought Drillings 6.00 to              | 6.50    |
| Cast Borings 4.00 to                   | 4.50    |
| Mixed Borings and Turnings 5.00 to     | 6.00    |
| No. 1 Boilers, cut 8.50 to             | 9.00    |
| No. 2 Boilers, cut 6.00 to             | 6.50    |
| Boiler and Ship Scrap 8.00 to          | 8.50    |
| No. 1 Cast                             | 11.00   |
| No. 2 Cast 7.00 to                     | 8.00    |
| Railroad Malleable Cast 10.00 to       | 10.50   |
| Agricultural Malleable Cast 9.00 to    | 9.50    |

Metals.—Copper is in fair demand, with prices unchanged at 16%c. for Lake and 16%c. for Casting. Lead is without activity at 3.95c. for Desilverized and 4.05c. for Corroding.

D. L. Cobb, who represents in Chicago and St. Louis territory the Sloss-Sheffield Steel & Iron Company and the Sloss Iron & Steel Company, has just been appointed also exclusive agent for the sale of Allegheny and Roanoke Irons for Illinois, Wisconsin, Minnesota and Missouri. These latter Irons form a complement to the grades previously sold by Mr. Cobb and permit him to make complete mixtures for foundry purposes.

## Philadelphia.

Office of The Iron Age, Forrest Building, PHILADELPHIA, Pa., July 24, 1900.

There is a better feeling in the Iron market, and it looks as though a slight reaction had set in. How far this may go is somewhat uncertain, but a better demand and stronger prices appear to be fairly well assured for the next few weeks, or may be for a longer period if developments continue to be as favorable as they now promise to be. In some quarters strong claims are made as to Pig Iron, but in finished products there is not much said, except that Plates are in better demand and that Thin Sheets are remarkably well taken. Taking everything into account, however, there is no doubt that there is a distinctly improved outlook, and while it is not expected that prices will show much advance, it is believed that there will be a market at clearly defined rates, which has not been the case for several weeks past. The change of tone is due to several influences, such as a curtailment of output and decreased supplies on the one hand, and on the other increased requirements and improved prospects of demand during the fall months. The decline in prices has also been so great that consumers feel more confidence in values, and are of opinion that for a while at all events the chances of advance are better than for a decline. It is remarkable that this statement has not been made, and could not have been truthfully made, at any time during the year until now. There is little doubt, however, that even if there is no advance further declines are for the present almost out of the question.

Pig Iron.—The market has a decidedly encouraging apearance. Some good buying has been done during the past week, several of the lots being of considerable importance, and in all cases at better prices than seemed probable a week ago. Small buyers have also been picking up a good deal of material, so that order books are in better condition than they have been for a long while past. It will probably not be safe to assume that prices will be carried back to the figures of last fall, or even to those current two or three months ago, but it is recognized that to-day's prices are as low as can be expected.

considering the cost of production, and as stocks are small and consumption likely to be on a very liberal scale during the remainder of the year, it is safe to stock up for a period covering at least 60 or 90 days. It may be that lower prices will be seen later on, but even that will depend upon contingencies which have yet to be developed. The volume of business promeses to be large, however, and as the export trade is again assuming important proportions, it is likely to be very efficient in preventing any serious shortage of employment. Nevertheless, there is but little prospect of being able to successfully operate furnaces for any length of time which cannot produce Iron at considerably less than to-day's prices. They may do so temporarily, but they will always be in danger of a decline, which will eventually leave them a long way in the rear. Present prices look low compared with last year, but they are high compared with an average of the previous five years, so that there can be no reason to doubt that prices will gradually, and in due course, get back to the old figures. The tendency of the age in all lines is to cheapen cost, hence \$10 to \$12 Pig Iron is only a question of time. For the present, however, the indications point to better prices as the natural outcome of a drop of \$5 to \$6 per ton during the past few months. Prices are steadier than they were, but are still difficult to quote with exactness, but in a general way \$16.50 for No. 2 X Foundry would be a fair average of to-day's market with some sales at more money, and some at a little less, the extreme range being as follows for tidewater or nearby deliveries: No. 1 X Foundry, \$17.50 to \$18; No. 2 X Foundry, \$16.25 to \$17; No. 2 Plain, \$15.75 to \$16; Mill Irons, \$14.25 to \$15; Ordinary, \$13.50 to \$14.

Billets.—There is a better market, and sales are being made at \$22.50 for fair sized lots. Buyers are cautious, however, and only take such lots as are likely to be needed in the near future.

Plates.—The demand for Plates is better than it has been for some time. Although the lots taken are (as a rule) not large, the aggregate is quite important. A few lots of 200 up to 600 and 800 tons have been placed, while the run for carload and similar quantities has been very encouraging. The chances now appear to favor a good fall trade, and it is expected that prices will show some improvement, but so far no distinct advance can be quoted on last week's prices, although the tone is undoubtedly firmer, as follows for nearby deliveries: Steel Plates, ¼-inch and thicker, 1.30c. to 1.35c.; Universals, 1.35c. to 1.40c.; Shell, 1.50c. to 1.55c.; Flange, 1.60c. to 1.65c.; Charcoal Iron Plates, C. H. No. 1, 2.40c.; Best Flange, 2.90c.; Fire Box, 3.40c.

Structural Material.—Plenty of figuring is going on for work which may be taken up in the near future, or which may go over until later in the season. Manufacturers say that in the matter of inquiries (which look like business) prospects are decidedly better, but they have not added much to their order books during the past few weeks. Mills are running as full as they can, considering the hot weather, but the output for the month will be very small compared with the earlier months of the year. Nominal prices remain as follows for seaboard and nearby points: Beams and Channels, 15-inch and under, 2.03c.; Angles, 3 to 6 inches, 1.93c.

Bars.—Business requires a good deal of forcing to induce large purchases. There are evidently too many mills in operation to permit satisfactory prices, which are now down to 1.30c. to 1.35c., at mill, for Refined Bars, and buyers claim that in some cases deliveries have been made to them at the figures named. There is a good deal of business one way or another, but the supply is rather too heavy, hence the weakness in prices.

Sheets.—Thin Sheets are extremely active, the leading local interests having all the orders they can fill for three or four months to come. Heavy Sheets are very dull, however. Prices remain as follows for best Sheets (Common Sheets two-tenths less): No. 10, 2.30c.; No. 14, 2.40c.; No. 16, 2.50c.; Nos. 18-20, 3c.; Nos. 21-24, 3.10c.; Nos. 26, 27, 3.20c.; No. 28, 3.30c

Old Material.—There are some signs of improvement in the demand, although prices are still very irregular. Cast Borings have been sold at \$6.50, and are almost a drug on the market, while Machinery Cast is freely taken at \$13.50 to \$14. Heavy Steel Scrap is also wanted at \$11 to \$11.50, and Rails at \$13. Other descriptions dull and neglected. Bids and offers are about as follows for deliveries in buyers' yards: Choice Railroad Scrap, \$14 to \$15; No. 1 Yard Scrap, \$11.50 to \$12.50; No. 2 Light Scrap, \$10 to \$10.50; Machinery Cast, \$13 to \$14; Heavy Steel Scrap, \$11 to \$12; Old Iron Rails, \$15 to \$16; Old Steel Rails, \$13 to \$14; Wrought Turnings, \$8.50 to \$9; Cast Borings, \$6.50 to \$7; Old Car Wheels, \$17 to \$18; Iron Axles, \$15 to \$16; Steel Axles, \$16 to \$17.

The Energy Mfg. Company, Philadelphia, Pa., have changed the title of their firm to the Energy Elevator

Company, as being more appropriate, owing to the fact that the company now manufacture Elevators exclusively, whereas at the beginning of their career, in addition to Elevators they manufactured a number of different articles.

## Pittsburgh.

Office of The Iron Age, Hamilton Building.)
PITTSBURGH, July 25, 1900.
(By Telegraph.)

Pig Iron.-The market on Bessemer Pig Iron is almost lifeless, no business being reported except a few small sales of 25 to 100 tons at about \$16.50 to \$17, Pittsburgh. Much interest attaches to the meeting of the Pig Iron and Steel interests to be held in the offices of the Illinois Steel Company, Chicago, to-morrow (Thursday). The local and Valley furnace interests will be fully represented. Prices on Forge Iron are going down very fast, and local Standard Gray Forge has sold at \$15, delivered Pittsburgh. Foundry Iron is also declining, but there is a fair amount of inquiry. Local No. 2 Foundry has sold at \$15.75 to \$16 in good sized lots, and is held at \$16 to \$16.50 for small lots, f.o.b. Pittsburgh. We quote Bessemer Iron at \$16 to \$17, Pittsburgh, in small lots. Were there any large lots offering it is certain that this price could be shaded perhaps a couple of dollars a ton. Local Forge Iron is \$15 and Southern Forge about \$14.50, Pittsburgh. No. 2 Foundry is \$15.75 to \$16 in small lots. We note a sale of local Forge Iron at \$15, delivered Pittsburgh.

Billets.—The Steel market is very quiet and hardly enough Steel is being sold to establish a price. The Steel interests meet in Chicago to-morrow (Thursday). We quote Bessemer Billets at \$19, maker's mill, Pittsburgh, but it is likely on a desirable specification and firm offer this price could be shaded. Open Hearth Billets are quoted all the way from \$21 to \$23 or \$24, depending on specifications and carbons.

Sheet Bars.—Prices continue to decline. Sheet and Tin Plate Bars cut to length have sold at about \$23, Pittsburgh, and it is intimated that this price has been shaded. Long Bars, random lengths, are offered at \$22, Pittsburgh, or less.

Iron and Steel Scrap.—The shut down of all the mills of the Republic Iron & Steel Company and the American Steel Hoop Company has cut off nearly all consumption of Scrap. On the few sales being made buyers are able to get very low prices. Cast Iron Borings have sold at \$6 a ton, delivered Youngstown. Old Iron Rails are offered at \$14.50 a gross ton, and Old Steel Rails for remelting have sold at \$11 a gross ton.

#### (By Mail.)

A call has been made for a meeting of all the leading Pig Iron and Steel interests, to be held in the offices of Judge Gary of the Federal Steel Company in "The Rookery," Chicago, on Thursday, July 26. The item of interest in the Iron trade this week is the fact that a strike is on in the Bar Iron mills, with a probability that they will be idle for some time. The two concerns affected most are the Republic Iron & Steel Company, controlling about 36 Bar mills in the Central West and South, and the American Steel Hoop Company, owning some 13 or 14 plants. The Amalgamated Association have refused to give the Wage Committee power to change the scale as adopted at Indianapolis and the manufacturers have refused to accept it. The scale calls for an advance of 50c. a ton in boiling, or to \$5.50 a ton, based on a 1½c. Bar Iron card. With the slump that has come in prices of Iron and Steel Bars, and the very low figures at which a limited tonnage is being entered by the mills, the demand of the Amalgamated Association at this time for an advance in wages is nothing short of absurd. The manufacturers will certainly persist in their determination not to pay higher wages at this time. Generally speaking, conditions in the Iron trade are showing some improvement in the direction that there is a very much better inquiry and a good deal of tonnage, particularly in Steel Bars for agricultural interests, has been placed. In fact, several of the leading mills advise us that their order books are in very much better shape than for several months, and with tonnage already booked and contracts under negotia-

tion the outlook has improved considerably. This tonnage has been taken, it is true, at low figures, but it proves the statement made in this report a number of times that just as soon as prices get to a point where buyers thought it safe to take hold there would be lots of business. There has also been some business in Plates on basis of about 1.10c. at Pittsburgh. In Pig Iron and Steel some low prices have been made, but without bringing out any tonnage of consequence. There is absolutely no demand for Bessemer Iron, but Bessemer Billets have been offered at \$19, maker's mill. There has also been some tonnage in Sheet Bars, prices ranging from \$21 or less up to \$23, the latter price for Light Bars cut to length. Finished Material, aside from Bars and Plates, is quiet, but there is more inquiry, with a probability that tonnage will soon pick up. Should the Bar mills remain idle for any considerable time an advance in the price of both Iron and Steel Bars is not out of the question.

Ferromanganese.—The local interest continues to quote 80 per cent. Ferro at \$85, delivered.

Rods.—We understand that Bessemer Rods have been quoted under \$30, f.o.b. Pittsburgh. An item of interest in this connection is that the Carnegie Steel Company are going into the manufacture of Rods on an extensive scale.

Bars.—The center of interest in the Iron trade just now is Steel Bars, in which there is more doing than in anything else. In the past two or three weeks a very large tonnage in Steel Bars has been sold to the agricultural people and other consumers, and large contracts for additional tonnage are pending. Based on costs of Ore, Coke, Pig Iron and Steel, prices on Steel Bars are certainly close to cost, if not at cost altogether. Prices at which this large tonnage of Bars was taken vary some, but a good deal was placed at 1.10c., maker's mill. In some cases this price was shaded \$1 or so where large lots were involved and for prompt shipments. The general market on Steel Bars is 1.10c. to 1.15c., but to a large buyer who would make a contract for a heavy tonnage and for prompt shipment our lower price would be shaded. Most of the mills rolling Iron Bars are idle, the Amalgamated Association having refused to reduce their scale and insisting upon the advance called for in the scale adopted at Indianapolis. This scale is based on Iron Bars at 1.50c. minimum and \$6 a ton for boiling, but this price on Bars is fully \$5 a ton above the market, and to ask an advance at this time is ridiculous. The mills will be allowed to remain idle a long time before the demand for higher wages is granted. In the meantime stocks of Iron Bars are light and prices are perhaps a trifle stronger. We quote Iron Bars at 1.30c, to 1.35c., f.o.b. Pittsburgh, in carload lots. For contracts involving large tonnage the lower price would be shaded.

Structural Material.—There is nothing of interest to report. The material for the New York East River Bridge held over is to be let on August 9. There is a good demand for bridge work and the mills rolling Structural Steel are fairly well employed. We quote as follows: Beams and Channels up to 15-inch at 1.90c.; over 15-inch, 2c.; Angles, 3 to 6 inch, inclusive, 1.80c.; over 6-inch, 1.90c.; under 3-inch, 1.60c. to 1.70c.; Zees, 1.90c.; Tees, 1.95c.; Bars, 1.40c.; Universal and Sheared Plates, 1.25c. to 1.30c., all f.o.b. Pittsburgh.

Plates.—Demand for Plates is better, being stimulated considerably by the very low prices ruling. With Billets at \$19 or thereabouts and Sheared Plates at 1.10c. and lower, it would seem that prices have about touched bottom. The market on Sheared Plates, ¼-inch and heavier, is 1.10c. to 1.15c., but in exceptional cases and for large tonnage our lower price has been slightly shaded. We quote Shell at 1.20c. to 1.25c.; Flange, 1.30c. to 1.35c.; Fire Box, 2.25c. to 3c.

Sheets.—There is a fair demand for Sheets in small lots, but not as heavy as some time since. Prices being quoted on Black Sheets show a wide range, and on No. 27 as high as 3.15c. and on No. 28 3.20c. is being quoted. These prices, however, are being shaded by jobbers, and a few mills are quoting 2.95c. to 3c. for No. 27 and 3c. to 3.05c. for No. 28. The demand now is principally for Corrugating sheets. There is a much better demand for Galvanized Sheets than for Black and a moderate tonage is being placed. We quote Galvanized Sheets at 70, 10 and 2½ per cent., 15c. freight. For very desirable orders and for prompt shipment it is possible this price on Galvanized might be slightly shaded.

Merchant Steel.—Business is very light, few orders being placed, and these only for small lots. Details of the organization of the Crucible Steel Company of America are to be closed up at a meeting to be held in Pittsburgh Wednesday, July 25. We quote nominally as follows: Tire Steel, 1.75c. to 1.80c.; Toe Calk, 1.85c. to 1.90c.;

Open Hearth Basic, 2.25c. to 2.35c.; Plow Slabs, 1.80c. to 1.90c.; Rolled Lay Steel, 2.75c.; Hammered Lay Steel, 3.10c. to 3.25c.; Tool Steel, ordinary grades, 7c. and upward, depending on quality. Terms are 60 days, 2 per cent. off for cash in 10 days, and on Tool Steel 25c. freight is allowed. As noted last week, the above prices would be materially shaded on attractive orders.

Skelp.—There are inquiries in the market for two or three moderate sized lots of Skelp and some low prices are being made. The market is nominally 1.25c., at mill, for Grooved and Sheared, but on a firm offer and for desirable sizes it is probable 1.15c. could be done.

Pipes and Tubes.—There is a fair demand for Tubular Goods, but mostly for small lots. Prices are better sustained than for some time, only occasional cutting being reported. To consumers in carload lots we quote:

| Black. Galvd. Per cent 63 . 50 . 55                  |
|------------------------------------------------------|
|                                                      |
| S. & S.<br>Per cent.<br>42<br>56<br>60               |
| eet. 22 feet and over. Per cent. 45 36 50 40 34 4746 |
|                                                      |

Coke.—Last week Coke production in the Connells-ville region increased slightly. Out of 20,420 ovens 16,099 were active and 4321 idle, the output having been 169,066 tons, an increase over the previous week of 7710 tons. Demand for Coke continues exceedingly quiet, and, with the probability of further shut downs among the blast furnaces and Bessemer plants, a further decrease in demand for Coke is probable. There is no demand for Furnace Coke, but for strictly Connellsville from \$2 to \$2.50 a ton is asked. However, there is no new business being placed. There is a little better demand for Foundry Coke, but it is also very quiet. We quote strictly Connellsville 72-hour Foundry Coke at \$2.75 a ton, at oven. For main line Coke lower prices than the above are being quoted.

The above prices are to consumers, prices to jobbers

being about 5 per cent. less.

## Cincinnati. (By Telegraph.)

Office of The Iron Age, Fifth and Main streets, Cincinnati, July 25, 1900.

The Pig Iron market is still in a very unsettled and unsatisfactory condition. Dealers and consumers alike are all at sea as to values. There is a feeling growing more pronounced that prices cannot go much lower without hurting every branch of the business. It is also believed that it will only require a few good sized orders to give the much longed for steadiness to the situation. There has been but little trading throughout the week, with perhaps an increase in the volume of inquiries. Prices generally have settled at least 50c., and there are rumors that several furnaces have signified a willingness to go still below the minimum herewith. Freight rate from Birmingham is \$3.25 to this point, from the Hanging Rock district \$1. We quote, f.o.b. Cincinnati:

| 5 | ROCK distric  | r dr.   | MG    | qu  | UL | C, | 1. | U. K | 30  | Cincin  | nau.       |
|---|---------------|---------|-------|-----|----|----|----|------|-----|---------|------------|
|   | Southern Cok  | e. No.  | 1     |     |    |    |    |      |     | \$17.00 | to \$17.50 |
|   | Southern Cok  | e. No.  | 2     |     |    |    |    |      |     | 16.00   | to 16.50   |
|   | Southern Cok  | e. No.  | 3     |     |    |    |    |      |     | 15.00   | to 15.50   |
|   | Southern Cok  | e No.   | 4     |     |    |    |    |      |     | 13.50   | to 14.00   |
|   | Southern Coke | e. No.  | 1 So  | ft. |    |    |    |      | 0 0 | 17.00   | to 17.50   |
|   | Southern Coke | e. No.  | 2 So: | ft. |    |    |    |      |     | 16.00   | to 16.50   |
|   | Southern Coke | e. Gran | For   | rge |    |    |    |      |     | 13.50   | to 14.00   |
|   | Southern Cok  | e. Mot  | tled. |     |    |    |    |      |     | 13.50   | to 14.00   |
|   | Ohio Silvery. |         |       |     |    |    |    |      |     |         |            |
|   | Ohio Silvery. | No 2    |       |     |    |    |    |      |     |         |            |
|   | Lake Superior | Coke.   | No.   | 1.  |    |    |    |      |     |         |            |
|   | Lake Superior | Coke.   | No.   | 2.  |    |    |    |      |     |         | to 16.50   |
|   | Lake Superior | Coke.   | No.   | 3.  |    |    |    |      |     |         |            |
|   | mano oupour   |         |       |     | -  |    |    |      |     |         |            |

Plates and Bars.—The better feeling continues to be manifest and there has been a fair trade, all circumstances considered. We quote, f.o.b. Cincinnati: Iron Bars, carload lots, 1.60c., with half extras; in small lots, 2c., with full extras; Bar Steel, carload lots, 1.70c., with half extras; small lots, 2c., with full extras; Iron Bar Angles, 1½ x 3-16 inch and larger, in car lots, 1.75c.; small, 2.25c.; Sheets, No. 10, 2.25c.; No. 27, Steel, 3c.; Plates, 2c. to 2.25c.

## Cleveland.

CLEVELAND, OHIO, July 24, 1900.

Iron Ore.-The transportation of Iron Ore from the Lake Superior district to Ohio ports is rapidly ceasing to be a factor in the making of freights on the lakes, at least for the present. During the week the shippers in Cleveland have received orders from the mines the movement of wild Ore, as their proportion has been fulfilled. Since the opening of the season of navigation, and especially since the tying up of the Rockefeller fleet, the movement of wild Ore down the lakes has been free and undisturbed, save for the temporary withdrawal of the larger vessels from that trade. During that period, which was of short duration, the shippers were compelled to rely upon the smaller boats and the contract tonnage to move their Ore. For the most part, however, the larger boats have been ready and anxious to carry Ore at the prevailing rates, and in accordance the shipment has been large. It was known that Ore had been shipped down the lake in much larger quantities so far this year than ever before, but the shippers hardly expected that they had reached the climax of the wild movement. This has had a disastrous effect on the carrying rates. There are a large number of vessels carrying rates. are desirous of getting Ore cargoes, and as these are limited the shippers are about in a position to dictate terms. So far no change has been seen in the rates, but if any business was moving it would not be a hard matter for the shippers to force a break. The quotations still are \$1 from Duluth, 90c. from Marquette and 70c. from Escanaba, although it is conceded that these rates mean little or nothing. The decision of the Ore Association to maintain the prices which prevailed last year was not received with any great amount of favor among the Pig Iron men. The association is acting regardless of others, considering only the interests of its members, remembering in the meantime the circumstances of a year ago. Then they were selling Ore at \$2.25 and \$2.50 a ton, and were losing on it, the price never being advanced until January 1, 1900. As a consequence of the year ago. vanced until January 1, 1900. As a consequence of the price which prevailed last year and the excessively high freights on the lakes, few if any of the mines paid running expenses, and the most of them lost money. Now the Ore men propose to get back some of the money they lost, and are notifying the Pig Iron men, through their decision, that they need expect no favors this year in the way of prices, as none will be granted. This situa-tion has been rather surprising to the Iron men, and has had the effect of precluding the possibility of much business being done.

Pig Iron.—The business for the last half of this year is still in an embryonic state. It had been expected that before this time some of it should develop, but all hope of that has been abandoned now until a settlement of the strike among the molders. All of the foundries in this district making machine castings are shut down, hence little or no Pig Iron is being consumed. The malleable foundries are still working, in a limited number of cases, but they are not doing much business. These have started up since their invoice, but have hardly been put into working order as yet. New entanglements in the relations with the molders are coming out, and it seems as if the fight is to be long drawn out. The molders now would be satisfied, seeing the trend in the Iron market, to go back to work at the old prices, but the furnacemen will not consent, but demand that certain reductions be made. It will likely be a long time, therefore, before the condition of things changes any. Just now the sales agents are taking it easy. The sales have been cut down almost to the minimum, and the prices vary greatly. The feeling in the trade is that the action of the Ore Association in holding up the prices to what they were last year will have a bracing effect upon the price of Pig Iron. Recent reductions have been made with a view to the possibility of the price of Ore dropping with the other market prices. This being no longer a probability the Pig Iron men have something substantial to figure on. This will affect, most likely, the aspect of the entire market, and that at once.

Finished Materials,—This has been a big week for business. The sales have been very heavy, and the inquiries have indicated that it is not to stop at once. The interest in Bars continues as it has been. One week ago it was stated that Bars had been livelier than at any time previously this year. This state of affairs has continued this week, and the sales have shown that the amount of business done is ever far in excess of the week before, therefore being the largest of the year. The price of Bars and Plates has been low, which probably had something to do with the bidding, the impression being that rock bottom has been reached. On both of these grades 1.15c. has been quoted. Aside from

increasing the volume of business noticeably the lowering of the prices has had the effect also of squeezing out of business some of the smaller mills, able to live only under such conditions as will keep the price of Finished Material at the very top notch. Notice has been received that a number of these small concerns have decided to quit business entirely. The Structural Iron market holds firm. This week the Wheeling & Lake Erle placed orders for its new bridges with the Toledo Bridge Company. The jobs will require 1000 tons of Steel. This was the biggest order of the week. There has been some talk of a reduction in the price of the smaller Angles, but this emanates from a source outside of the mills in the agreement, and they are paying no attention to it. It is a fact, nevertheless, that some quotations of the smaller sizes of Angles have been made as low as 1.50c. The week has seen a good inquiry for Billets, and sales have been made on the basis of about \$21.50. In addition to these the market has an inquiry for 1000 tons of Bars. The order has not been placed.

## Birmingham.

BIRMINGHAM, ALA., July 23, 1900.

To use the expressive phrase of one of our Iron magnates, the Iron market has been a very ragged one and it is ragged yet, though it is settling to a basis that is considered safe. The feeling is that there is small probability of a decline below \$1 lower, which would bring this district to a parity with other competing districts. The price for the same grade of Iron has run the gamut of changes all through the variations of \$1.50. No. 2 Foundry, for instance, has sold all the way from \$14.50 to \$13, and even at the latter price there have been declinations of the product. No. 4 Foundry was sold at \$12.25, and from that down to \$11.25, and offerings at the latter price were declined on the ground that districts east of us were beating that figure. Some Silver Gray went at \$15.75, but only in a small way. That grade is as erratic in price as is the demand, which cannot be anticipated.

The price seems to be governed by the individual necessities of the buyers. All have been grabbing for business, which indicates the feeling that a lower level of values is anticipated. One encouraging feature in the situation is that large interests which have persistently held out of the market are now coming into it with inquiries and have taken limited quantities at accepted concessions in prices. They stand ready to increase these holdings when they think prices are rock bottom. Said a leading furnaceman to your correspondent, "I can't say that I think we are on bottom, but I can say we are not far from there. It may require a further decline of \$1 to put us on a basis that would be attractive to buyers. If necessary we will meet the market at the decline and feed the wants of the buyers. We have unlimited faith in a reaction being near at hand. The export trade at the prices indicated would come in freely and take our surplus."

tractive to buyers. If necessary we will meet the market at the decline and feed the wants of the buyers. We have unlimited faith in a reaction being near at hand. The export trade at the prices indicated would come in freely and take our surplus."

As an instance of excessive variation in price an inquiry came in for a certain grade, which was promptly answered naming figures that were considered as sure to secure the order. The reply came promptly, "You are just \$2 too high." While low prices were made on low grades telegrams indicated a demoralization in districts east of us much worse than prevailed here. The truth is no one here has attempted to set the pace for prices. There has been no necessity for it. We have just followed the trend of events and have been selling some of the other fellow's Iron who could not or would not take it when tendered to him.

not take it when tendered to him.

As to the export trade, it is very fair. One firm worked orders for 7000 tons in one day. Other firms have been equally fortunate in securing foreign favors. So that, summing up the foreign business for the week, it will cover full 40,000 tons. Your correspondent is not permitted to mention grades nor ports to which purchases go. There is a great deal of jealousy concerning these export orders and it is very hard to secure particulars of interest.

One thing that is greatly bothering the sellers is not the difficulty of delivering sales, but the difficulty of making buyers accept sales. When the market is against the seller he must stand to the rack and munch his medicine. When it is against the buyer it was entirely unexpected and unprovided for. So the seller stands in the gap, protects the buyer and sacrifices himself. He should never make a sale without a guarantee of protection

The Steel mill concerning whose shut down mention has been made is being prepared for the renewing of operations by August 1.

Just how or just why it is cannot be stated, but there is a feeling that the depression has about reached the bottom and that we are on the upward tendency again.

Certainly there has been no diminution in the fathering of enterprises in the district that require both brains and money.

## St. Louis. (By Telegraph.)

Office of The Iron Age, 1205 Chemical Building, St. Louis, July 25, 1900.

Pig Iron.—The market is still in a transitory condition and apparently bottom has not been touched. Prices below show reductions of 50c., but the quotations may still be considered normal. An order of the right size would without much doubt be taken at a concession. Rumor has it that No. 2 Foundry could be secured at \$13, Birmingham. Very little business is heard of and inquiries which do bear fruit are for one or two carloads only. It is significant that after quotation is had the matter is closed by wire. There seems to be comparatively little Iron in consumers' yards and present orders specify speedy shipment. We quote, f.o.b. St. Louis:

| Southern, | No. | 1   | Fo | undi | гу. | <br> | <br>\$18.00 to | \$18.25 |
|-----------|-----|-----|----|------|-----|------|----------------|---------|
| Southern, | No. | 2   | Fo | und  | ry. | <br> | <br>17.00 to   | 17.25   |
| Southern, | No. | 3   | Fo | und  | ry  | <br> | <br>16.00 to   | 16.25   |
| No. 1 Soi | t   |     |    |      |     | <br> | <br>18.00 to   | 18.25   |
| No. 2 Soi | t   |     |    |      |     | <br> | <br>17.00 to   | 17.25   |
| Gray For  | ge  | 0 0 |    |      |     | <br> | <br>15.00 to   | 15.25   |

Bars.—There is a better tone prevalent this week. One of the conservative jobbers considered that bottom had been reached and backed up his judgment by placing orders for round lots. As compared with last week, mill prices are easier. Iron in large tonnage is quoted 1.50c. and Steel 1.40c., half extras. Store prices are unchanged at 1.75c. to 2c., full extras.

Rails and Track Supplies.—The week has proved rather quiet. No buying has apparently involved more than ordinary wants. We quote Splice Bars, Iron or Steel, 1.90c. to 2.25c.; Track Bolts, with Square Nuts, 2.55c. to 2.70c.; with Hexagon Nuts, 2.70c. to 2.80c.; Spikes, 2c. to 2.10c.; Links and Pins, 2c.

Pig Lead.—Market dull and uninteresting. Tonnage movement is quite light. Prices are unchanged as follows: Soft Missouri, 3.90c.; Desilverized, 3.95c. Lead Ore sold at \$43 per ton.

Spelter.—There was some excitement since our last report, caused by labor differences at Le Harpe. The plant is now understood to be running and speculative interests are no longer in evidence in the market. Prices had in the meantime reached 4.25c., but the nominal price to-day is 4.12½c. Smelters are not showing any anxiety to effect sales, but there is still a downward tendency in prices. Zinc Ore experienced higher values, \$28 having been the top price.

## The British Iron Market.

Pig Iron.—There has been a better tone in the market during the past week, and buyers show more disposition to operate. As regards warrants, there is practically nothing doing in the Cleveland district, and yesterday they were not quoted on 'Change. It is reported, however, that 69 shillings have been paid for them during the week. In Glasgow there have been some marked fluctuations, Warrants dropping from 69 shillings 4½ pence to 66 shillings 11½ pence, and subsequently recovering to 69 shillings 10 pence, or nearly 3 shillings more than last week's quotation. These movements, however, have not affected makers' prices to any extent, although Carron Iron has been reduced, No. 1 to 85 shillings 6 pence, and No. 3 to 75 shillings 6 pence. In the Cleveland district the Glasgow market and its vagaries have been entirely ignored, and quotations have remained very steady. Producers have plenty of orders in hand, and they are apparently able to hold their own, stocks in public stores being very small, and holders thereof being disinclined to sell under present circumstances. The general price of No. 3 Cleveland G.M.B. Pig Iron, for early delivery this week, has been 68 shillings 6 pence to 69 shillings, the latter price being the more representative figure at the end of the week. Makers of Hematite are busy, and 86 shillings has to be paid for mixed numbers.

Manufactured Iron and Steel.—The finished branches continue well employed in completing arrears of work, and, although new business is not coming forward very freely just now, makers still have sufficient on their books to put them in a position to resist the persistent attempt of customers to get orders accepted at reduced rates. The requirements of consumers during the ensuing quarter are considerable, judging by the inquiries to hand, but they hesitate to conclude bargains at the present figures, and will no doubt hold off until they are able to see with some amount of certainty what the

future course of prices will be. In South Staffordshire, however, the Marked Bar houses are doing a steady business at their full rate of £11 10s., but makers of Common Iron have more difficulty in getting the list price, being offered, but rarely accepting, £10 5s. Steel makers have a good deal of work on hand. Bars, Plates, Angles and Billets are in good demand.

Engineering and Shipbuilding.—There is no material change to report. Orders in hand still keep most of the leading branches fully engaged, but new work is not coming forward in quantities sufficient to replace what has been completed and delivered. In one or two important sections, however, the outlook would seem to be quite as satisfactory as ever, and this is especially the case as regards builders of all descriptions of railway rolling stock and plant. On the other hand, the textile machine trades are undoubtedly becoming quieter. The shipbuilding yards are fairly busy. Hartlepool builders launched 51,997 tons during the first six months of the year, as compared with 69,800 tons for the initial half year of 1899, while the corresponding figures for the Tees and Whitby are 70,615 and 76,074 tons respectively.

Foreign.—In France the demand for Rolled Iron continues to be strictly limited to pressing needs, but prices have been put up a little owing to the increasing cost of fuel. On the Belgian market prices continue on a downward grade. A good many of the mills and forges in the Charleroi and Liege districts are running short time, and as the consumption of crude metal is diminishing, larger quantities are now available. There has been a little more active demand for most descriptions of Rolled Iron in Germany. The contracts already entered into are sufficiently heavy to keep manufacturers fully employed until the end of the year, and in many cases even over the first quarter in 1901.

Comparison of Prices.—The annexed table shows the current prices compared with those of last week, and the corresponding period last year:

|                                                                      |    | July<br>19 | 12, |     |     | y 5,<br>00. |     | July<br>189 |    | 9 |
|----------------------------------------------------------------------|----|------------|-----|-----|-----|-------------|-----|-------------|----|---|
| Iron Ore—                                                            |    | S.         | d.  |     | 6.  |             |     |             | d, |   |
| Rubio, Middlesbrough                                                 |    | 21         | 6   |     | 21  | 3           |     | 17          | 0  |   |
| Rubio, Cardiff                                                       |    | 20         | 6   |     | 20  | 6           |     | 15          | 9  |   |
| Rubio, Cardiff Pottery Mine, North Staffordshire.                    |    | 20         | 6   |     | 20  | 6           |     | 14          | 6  |   |
| Hematite, West Coast (at mines)                                      |    | 17         | 6   |     | 17  | 6           |     | 16          | 0  |   |
| Pig Iron-                                                            |    |            |     |     |     |             |     |             |    |   |
| No. 3 Foundry, Middlesbrough                                         |    | 69         | 0   |     |     | 0           |     | 71          | 0  |   |
| Warrants                                                             |    |            |     |     |     | 9           |     | 71          | 0  |   |
| Scotch Warrants, Glasgow                                             |    |            | 10  |     |     | 1136        |     | 71          |    |   |
| Hematite Warrants, West Coast .<br>Cold Blast (Foundry), South Staf- |    | 83         | 6   |     | 83  | 0           |     | 78          | 0  |   |
| fordshire                                                            |    | 130        | 0   |     | 180 | 0           |     | 110         | 0  |   |
| Welsh Hematite, Cardiff                                              |    | 90         | 0   |     | 90  | 0           |     | 75          | 0  |   |
| Manufactured Iron and Steel-                                         | £  | s.         | d.  | £   | 8.  | d.          | £.  | S.          | d. |   |
| Marked Bars, South Staffordshire                                     | 11 | 10         | 0   | 11  | 10  | 0           | 9   | 0           | 0  |   |
| Common Bars                                                          | 10 | 15         | 0   | 10  | 15  | 0           | 8   | 0           | 0  |   |
| Steel Rails, Middlesbrough                                           | 7  | 12         | 6   | 7   | 12  | 6           | - 5 | 7           | 6  |   |
| Steel Rails, West Coast                                              | 7  | 7          | - 6 | 7   | 7 5 | 6           |     | 7           | 6  |   |
| Steel Rails, Cardiff                                                 | 7  | 5          | 0   | 7   | 5   | 0           | 5   | 15          | 0  |   |
| Steel Angles (eng.), Middlesbrough                                   | 8  | 15         | U   | 8   | 15  | 0           | 7   | 2           | 6  |   |
| Steel Angles (eng.), Glasgow                                         | 8  |            | 0   | - 8 | 5   | 0           | 7   | 0           | 0  |   |
| Steel Plates (ship), Middlesbrough                                   | 8  | 7          | 6   | - 8 | 7   | 0 0 6       | 7   |             |    |   |
| Steel Plates (ship), Glasgow                                         | 8  | 7          | 6   | 8   | 7   | 6           | 3   | 10          | 0  |   |
| Tin Plates, Bessemer IC Cokes, South                                 |    | 8.         | d.  |     | s.  | d.          |     | 8.          |    |   |
| Wales                                                                |    | 15         | 3   |     | 15  | 3           |     | 15          | 8  |   |
|                                                                      |    |            |     |     |     |             |     |             |    |   |

-The Iron and Coal Trades Review, London, July 13, 1900.

### The German Iron Market.

ESSEN, July 11, 1900.—It is difficult to render a clear perception of the present condition of the Iron market. The great industries are in excellent condition; they are not only kept sufficiently busy in the different branches, but there are so many specifications on hand that an active and good trade is assured for many months to come. The large works are well supported by orders for Rails, Sleepers and other material for the State and other railroads. In fact, the orders have been so important that the Prussian State Railway had to postpone the term of delivery from May 1, 1901, to a date late in the fall. The smaller manufacturing industries are also well occupied. Some branches, however, which produce rolled specialties, Iron Bars, Sheets, &c., are complaining of the want of sufficient orders, and for reasons which are easily explained. The uncertainty of political relations naturally makes enterprise careful and hesitating, and consequently the interrupted demand will be first felt by works that turn out only certain specialties.

Certain circles are still harping on the bugbear of American competition, which for the present has no bearing on the subject of the firmness of the Rhenish-Westphalian industrial market. Let us here again point out the difficulty to effect regular shipments of American Pig Iron to Germany. The first difficulty is the German tariff of 10 marks per ton; second, American Pig Iron can only be introduced simultaneously with cotton, and therefore a regular and continuous influx could not be counted upon, which certainly is an indispensable condition. In addition to tariff and ocean freight there is the

Jul

cost of transportation from ship to point of destination, which would run up expenses to from 35 to 45 marks per ton. This demonstrates how much lower American prices must go before our important German consumers can

give it serious consideration.

The Ore market has suffered no material change since our last report; supplies are regular and in keeping with the wants of the blast furnaces. Sales of Pig Iron have somewhat lessened of late, but this may be traced to the customary July stock taking. It is well known that there are still requirements of Thomas Basic Pig to be covered and that they will have to be supplied from foreign sources. On the whole the Pig Iron industry has been very busy, and foundries especially have been good buyers. The former scarcity of Steel material is now at an end and is not expected to occur again. The rolling mills can easily obtain Billets and have in some instances been able to put in a supply. The same may be reported of Muck Bars, which are wont to be scarced to the property of the market for Belled Luck has been able to put in a supply. The market for Rolled Iron has been quiet summer. since the American crisis. Owing to a feeling of un-certainty specifications are scarce; only most urgent needs are being covered. But what is wanted by dealers is very pressing and shows that there is a demand, only held back by existing conditions. This may be due to some extent to former prices, which rose too rapidly, and therefore consumers are now showing more precaution in buying.

Iron Bars, which usually were scarce, are very quiet, selling at 205 marks per ton for best quality; Soft Steel at 180 to 185 marks.

So far as Bands are concerned the market is quiet, but prices are unchanged at 195 to 197.50 marks per ton. The condition of the Plate mills is very satisfactory, the demand for Ship and Tank Plates being large. The Sheet mills have a less satisfactory position to report, and the formation of the Sheet syndicate is slower in materialization to the sheet syndicate is slower in materialization. terializing than had been expected.

The Tube works have reduced their prices by raising their discounts 5 per cent., owing to the enormous increase in production by the many new mills that have started up, and the supply at present is greater than

the demand.

The Rod mills are fairly busy. The sale of Drawn Wire is quiet, as the news from China is unfavorable. The sales of Wire Nails are not brisk, either for home use or for export; dealers having bought heavily and more than they really needed, are now filling orders from stock and only buy sparingly.

The railroad car works are very busy and the outlook for the future is excellent. The last orders received from State railroads will keep them busy until next

look for the future is excellent. The last orders received from State railroads will keep them busy until next spring. The machine shops, especially the Iron foundries, are extremely busy and are not in the least affected by the present quiet condition of the market.

The position of the Coal and Coke market remains the same as last reported and continues favorable. The demand for Coal is still in excess of the supply, although the latter is increasing from month to month. Consumers generally complain of insufficient receipts. The lots that remained without takers after the July inventory was taken were easily disposed of to other parties. tory was taken were easily disposed of to other parties. It may be safely stated that as autumn approaches and Coal for domestic purposes will be needed, the demand cannot be met, as the continued scarcity of labor will

prevent an increased output.

The demand for Coke is not as lively as it has been and the market has shared somewhat the general quiet tone of the Iron industry. Still there is sufficient demand to take up all the increased production of the newly

started Coke plants.

## New York.

Office of The Iron Age, 232-238 William street, NEW YORK, July 25, 1900.

-Domestic business is painfully small. Iron. Some demand is noted for small lots for immediate ship-ment, and a few inquiries are being received for round lots, but negotiations are long drawn out, and buyers hesitate to close as long as they see prices continuing to decline. Quite large sales have been made, principally of Southern and Virginia Iron, for export to England, Holland and Australia. Prices show a further decline. Our quotations represent a fair average of the market, but the fact should be noted that special brands which are wanted for mixture in some instances command better prices. Quotations are as follows at tidewater: Lehigh, Schuylkill and Virginia Irons, No. 1, \$17 to \$18; No. 2 X, \$16 to \$17; No. 2 Plain, \$15 to \$16; Gray Forge, \$14 to \$15. Tennessee and Alabama brands, No. 1 Foundry, 18.50 to \$19; No. 2 Foundry, \$17.25 to \$17.75; No. 1 Soft, \$18.50 to \$19; No. 2 Soft, \$17.25 to \$17.75; No. 3 Foundry, \$16 to \$16.50; Gray Forge, \$15 to \$16.

Steel Rails.—The only transactions reported for the st week are in Steel Rails held in store by banking

interests. One lot of 10,000 tons held in store in New York for quite a long time has finally been disposed of at considerably under the mill price. Manufacturers continue to quote \$35 at mill in Eastern Pennsylvania for Standard Sections. Spikes are held at 2.10c. to 2.20c.; Splice Bars, 2c. to 2.20c.; Square Track Bolts, 3c. to 3.10c.; Hexagonal Track Bolts, 3.10c. to 3.20c.

Cast Iron Pipe.—Nothing new has developed in this branch of trade. The demand is still confined to small lots, which are quoted at tidewater at \$27 to \$27.50 for S-inch Pipe. These prices would be shaded on good quantities

Finished Iron and Steel .- A great deal of bridge work has been taken by the leading interest during the week. Orders for bridges have been received from all over the Buildings involving 12,000 tons or more about ready to be placed, but contracts are deferred for various reasons. The approaches to the East River Bridge, which will be let on the 6th prox., constitute the largest piece of work now in sight. The demand for Plates is fairly good, running probably a little better than usual at this season, but prices are drooping, owing to the competition among manufacturers, which seems to be particularly sharp from Pittsburgh. Good inquiries for export are now under negotiation. as follows at tidewater: Beams, Channels and Zees, 2.05c. to 2.15c.; Angles, 1.95c. to 2.05c.; Tees, 2.10c. to 2.20c.; Bulb Angles and Deck Beams, 2.35c. to 2.45c.; Universal Mill Plates, 1.30c. to 1.40c. Sheared Steel Plates are 1.30c. to 1.40c. for Tank, 1.40c. to 1.50c. for Plates are 1.30c. to 1.40c. for Tank, 1.40c. to 1.50c. for Shell, 1.50c. to 1.70c. for Flange, 2.10c. to 2.30c. for Fire Box, 3.50c. to 4c. for Locomotive Fire Box, on dock. Charcoal Iron Plates are held at 2.40c. for C. H. No. 1, 2.90c. for Flange, and 3.40c. for Fire Box. Refined Bars are 1.35c. to 1.40c.; Common Bars, 1.30c. to 1.35c.; Soft Steel Bars, 1.30c. to 1.40c., and Hoops, 2.25c. to 2.35c., base on dock base, on dock.

Old Material.-Large quantities of Old Rails, aggre gating 8000 tons of Steel and 7000 tons of Iron, were of fered the past week by leading Eastern railroad companies, but the bids received were so unsatisfactory no sales were made. A lot of 1500 tons of Old Steel Girder Ralls for import is also being offered in this market. It is exceedingly difficult to quote prices, but the range on Old Iron Rails would probably be \$12 to \$14, and on Old Steel Rails, \$11 to \$13. Other classes of Old Material are in practically no demand. No. 1 Railroad Scrap is offered at \$15.

## Metal Market.

Office of The Iron Age, 232-238 William street, New York, July 25, 1900.

The week under review has been an extremely quiet one in every branch of the metal trade. Very little business was transacted, as consumers appear to still feel that the time for engaging ahead has not arrived. The situation in China has not yet had any but a disquieting effect. As to the effect on the Copper trade, certain parties view the s!tuation with apprehension, as they state that plans for the extension of trolley road and electrical systems will be laid aside indefinitely, thus placing out of the question anticipated demand for Copper Wire and electrical goods. On the other hand, it is said that there will be large purchases by the European governments for mili-tary purposes. This, however, is said to be insignificant as compared with demand which has been checked. The fact that so slight a disturbance was made on the London 'Change as a result of the war news is taken as a good sign. The London operators are most sensitive as to political movements, and although the present trouble has assumed evil proportions, it has passed the London traders practically unnoticed.

Pig Tin.—The sensation of to-day is what has been termed the collapse of the spot corner. While early in the week 35c. was paid, retail lots were to-day offered for 34c., with 32% c. as the highest bid received. We should say that the market to-day is not above 33% c. in a retail way. Business has parroyed down to the in a retail way. Business has narrowed down to the smallest retail proportion, as buyers of round lots do not exist at this time. Futures are entirely nominal, as there are no buyers, and we hear that September and October Tin can be secured at 30½c. Arrivals here and at nearby ports amount so far this month to 675 tons, but 935 tons are due between to-day and Saturday. The regular Banca sale will be held to-morrow, at which about 2300 tons will be sold. London closed to-day £143 15s. for spot and £139 for futures. It will be observed that the backwardation amounts to but £4 15s., while last week it amounted to £7.

Copper.—Efforts are doubtless being made by mer-chants to stiffen the situation, as opinions on all sides indicate belief in a stronger market. Consumers do not seem to respond, however, and the result is a good deal

## QUOTATIONS OF IRON STOCKS DURING THE WEEK ENDING JULY 25, 1900.

| ap'l Issued. |                                       | Sales. | Thursday.   | Friday.     | Saturday.   | Monday.      | Tuesday.    | Vednesday   |
|--------------|---------------------------------------|--------|-------------|-------------|-------------|--------------|-------------|-------------|
| \$29,000,000 | am. Car & Foundry, Common             | 1,680  | -141/2      |             | -15         | 151/8-155/8  | -155%       | 151/2-155/8 |
| 29,000,000   | Am. Car & F'y, Pref. (7 % Non-Cu.).   | 955    |             | 61 -63      | -63         | , - , -      | -64         | 6354-64     |
| 19,000,000   | 1m. Steel Hoop, Common                | 9,825  | 1934-22     | 211/2-223/  | 2134-2214   | 221/2-231/   | 211/2-23    | -311/2      |
| 14,000,000   | 1m. Steel Hoop, Pref. (7 % Cu.)       | 900    | 68 -7156    |             | 71 -72      | 70 -71       |             | ,           |
| 50,000,000   | Am. S. & W., Common                   | 65,319 | 32 -335%    | 331/-347/6  | 341/2-35    | 347%-361/    | 341/2-36    | 343% 351/   |
| 40,000,000   | Am. S. & W., Pref. (7 & Cu.)          | 6,477  | 721/2-7338  | 7834-75     | 741/8-745/8 | 741/2 -751/4 | 7334-741/2  |             |
| 28,000,000   | Am. Tin Plate, Common, N. Y           | 7,514  | 2114-231/2  | 2274-2334   | 23 -24      | 24 -2414     | -23         | -23         |
| 18,325,000   | Am. Tin Plate, Pref., N. Y. (7 % Cu.) | 1,291  | 79 -80%     |             |             | and a        | -20         |             |
| 7,500,000    | Bethlehem Iron †                      | 50     | 11111111111 | -57         |             | -10          |             |             |
| 15,000,000   | Beth. Steel, Par \$50, \$1 paid in    | 1,809  | -15         | 15 -15%     | 151/ 153/6  |              | -15         | 145% -148/  |
| 7,974,550    | Cambria Iron, Phila*                  | 2      |             |             | -41         |              |             |             |
| 16,000,000   | Cambria Steel **                      | 9,987  | 161/8-163/8 | 161/2-171/4 | 171/4-171/  | 171/6-173/6  | 1678-171/   | -1676       |
| 11,000,000   | Col. Fuel and Iron                    | 11,220 | 33 -331/2   | 331/2-341/4 | 34 -345%    | 341/4-36     | 3438-3534   | 331/2-34    |
| 46,484,300   | Federal Steel, Common                 | 31,995 | 321/8-335/8 | 3314 -3458  | 341/4-347/8 | 3434-36      | 341/2-3558  | 3334-3458   |
| 53,253,500   | Federal Steel, Pref. (6 & Non-Cu.)    | 9,531  | 65 -661/    | 66 -67      | -67         | 67 -68       | 67 -68      | 6658-67     |
| 32,000,000   | National Steel, Common, N. Y          | 9,480  | 2378-25     | 25 -263/    | 261/8-263/  | 265/8-27     | 251/8-261/2 | -251/8      |
| 27,000,000   | Nat'l Steel, Pref., N. Y. (7 % Cu.).  | 810    | -84         | -84         | 2078 - 3074 | -84%         | -851/       | 1           |
| 40,000,000   | National Stl. Tube, Common, N. Y.     | 6,031  | 451/2-46    | 46 -461/2   |             | -461/2       | 461/4-461/2 | 46 -461/2   |
| 40,000,000   | National Stl. Tube, Pref., N. Y       | 2,902  | -90         | -90         | 40 -40/2    | , -          |             |             |
| 5,000,000    | Penna., Common, Phila                 | 3      |             | -58         |             |              | 8978 90     | -897/8      |
| 1,500,000    | Penna., Pref., Phila                  |        |             |             |             |              |             |             |
| 18,500,000   | Pressed Steel, Common                 | 2,500  | -431/4      | 431/431/2   | -433/2      | 43 -433%     | 40          | -4176       |
| 12,500,000   | Pressed Steel, Pref. (7 % Non-Cu.).   | 1,010  | 781/2-74    | 74 -7434    | 1           | , ,          |             | -11/8       |
| 27,352,000   | Republic Iron & Steel, Common         | 3,290  | -12         | 12 -121/2   | -121/2      | 121/2 13     | 1214-1212   | 1134-1254   |
| 20,852,000   | Repub. Iron & Steel, Pref. (7 % Cu.). | 2,830  | 54 -55      | 54 -541/2   |             | 54 -541/2    | 54 -541/    | -54         |
| 7,500,000    | Sloss-Sheffield S. & I., Common.      | 100    | 31 -33      | , -         |             | , -          |             |             |
| 6,700,000    | Sloss-Sheffield S. & I., Pref         | 120    |             |             |             | -64          |             | -191/2      |
| 20,000,000   | Tennessee Coal and Iron               | 38,045 | 661/4-673/8 | 671/4-693/8 | 69 -71      | 71 -75%      | 72 -741/4   | 703/8-713/4 |
| 1,500,000    | Warwick Iron & Steel (par \$10)       | 100    |             | 0174-0098   | 09 -41      | 11 -10/3     |             |             |
| -,000,000    | (par 410)                             | 100    |             |             | ********    |              |             | - 81/2      |

\* Par \$50. \*\* \$9 per share paid in. † 6% guaranteed by Beth. Steel Co. Late Philadelphia sales by telegraph. ‡ Ex-dividend.

\* Bonded Indebtedness: Am. S. & W., \$130,656; Am. Tin. Plate, none; Am. Steel Hoop, none; Cambria Iron Co., \$2,000,000 6 % debenture 20 year bonds, 1917, payable option 5 years, assumed by Cambria Steel Co.; Federal Steel Co., \$9.822,000 Illinois 5 %, \$7,417,000 E. J. E. R. R. 5 %, \$1,000,000 Johnson 6 %, \$6,732,000 D. & I. R. R. R. 5 %, \$1,000,000 2d D. & I. R. R. R. 6 %, \$10,000 land grant D. & I. R. R. R. 5 %; National Steel, \$2,561,000 6 %, \$8,114,000 7 % cu. pref; Pennsylvania Steel, \$1,000,000 6 %, \$1,000,000 7 % cu. pref; Pennsylvania Steel, \$1,000,000 5 %, Steelton. 1st, 1917. \$2,000,000 5 %; Sparrow's Point, 1st, 1922, \$4,000,000, consolidated, both plants; Bethlehem Iron, \$1.351,000 5 % maturing 1907. Interest and principal guaranteed by Bethlehem Steel Co. Republic Iron & Steel, none; Warwick Iron & Steel, none; Colorado Fuel & Iron Co., \$2,000,000 preferred stock with accumulated dividends of \$640,000 to June 30, 1899.

of high toned talk with an underlying feeling of uncertainty occasioned by the fact that buyers don't buy. It is said that the large lake company tried to bring about a sale but failed, on account of the indisposition on the part of consumers. The price at which they are open to business is said to be 16½c. There are reports of recent sales made in other quarters at 16%c., and a few days ago there was a report of Lake being sold at 16½c. The nominal quotations to-day are 16½c. for Lake Superior Ingot, 16‰c. for Electrolytic and 16¼c. for Casting Stock. London closed to-day £72 17s. 6d. for spot and £73 2s. 6d. for three months' futures. Best Selected is quoted £78 5s. A peculiarity of the export trade is the demand for small lots at immediate shipment.

Pig Lead—Is without change as to price and with a rather slight demand. The American Smelting & Refining Company quote 4c. for 50-ton lots, f.o.b. New York, and 3.95c. f.o.b. St. Louis. London is unchanged at £17 12s. 6d.

Spelter.—This market, while still quiet, has doubtless experienced a slightly better demand. It is also said that demand from abroad has increased slightly. Prices have advanced to 4.25c. to 4.30c. for ordinary brands. London is quoted £19 10s. at the close to-day. This is an advance of 7s. 6d. above the figure of last week.

Antimony.—Hallett's has declined 1/8c. and is now oted 91/2c. Cookson's is unchanged at 101/2c. quoted 91/2c.

Nickel.—Refiners are said to be much in arrears in shipments and the metal holds most firmly. Prices are unchanged, small lots commanding from 55c. to 60c.

Quicksilver.—Wholesale lots of 100 flasks and more are quoted at \$51 per flask of 76½ lbs. London remains unchanged at £9 10s.

Tin Plate.-There is no change in the situation. sumers are buying from hand to mouth, being supplied from stock. The American Tin Plate Gompany still quote \$4.84 per box of 100-lb. Cokes, New York delivery, or \$4.65 f.o.b. mill.

At a meeting of the Board of Directors of the Crucible Steel Company of America, held at Pittsburgh on Wednesday afternoon, July 25, the following officials were elected: William G. Park, chairman; Charles H. Halcomb, president and general manager; James W. Brown, first vice-president; Benjamin Atha, second vice-president; Benjamin At president; Robert E. Jennings, third vice-president; Frank B. Smith, secretary, and Reuben Miller, treasurer. An executive committee was elected, consisting of William G. Park, Charles H. Halcomb, James W. Brown, Benjamin Atha, Robert E. Jennings, Reuben Miller and Herbert Dunner. Herbert Dupuy.

The strike of the iron ore miners of Morris county, N. J., has not yet been settled, although at some mines a portion of the force has returned to work.

#### Iron and Industrial Stocks.

A sudden revival of interest in the steel stocks was shown during the week, and sharp advances were made all along the line. Pools were said to be at work in the leading stocks. They succeeded in lifting prices considerably, but the advances made were not maintained.

|                                         | Bid. | Asked. |
|-----------------------------------------|------|--------|
| American Bicycle Company, Common        | 61/2 | 71/9   |
| American Bicycle Company, Preferred     | 32   | 33     |
| American Bicycle Company, Bonds         | 80   | 84     |
| E. W. Bliss, Common                     |      | 1371/2 |
| E. W. Bliss, Preferred                  | 125  |        |
| Cramp's Shipyard Stock                  | 75   | 80     |
| Diamond State Steel                     |      | 374    |
| International Silver, Common            | 386  | 5      |
| International Pump, Common              | 191% | 20%    |
| International Pump, Preferred           | 66   | 67     |
| Otis Elevator, Common                   | 29   | 2914   |
| Otis Elevator, Preferred                | 87   | 88     |
| Pratt & Whitney, Common                 | 31/2 | 5      |
| Pratt & Whitney, Preferred              | 50   | 55     |
| U. S. Projectile                        | 95   | 100    |
| Tidewater Steel                         |      | 9%     |
| U. S. Cast Iron Pipe Company, Common    |      | 5      |
| U. S. Cast Iron Pipe Company, Preferred |      | 391/2  |
| H. R. Worthington, Preferred            |      | 110    |
| Empire Steel, Common                    | 6    | 10     |
| Empire Steel, Preferred                 | 30   | 36     |
|                                         |      |        |

The treasurer of the American Car & Foundry Company states that the issue of nearly \$2,000,000 treasury pany states that the issue of nearly \$2,000,000 treasury stock recently made was necessary to make payments on properties recently purchased. The new stock consists of \$910,000 each of common and preferred, and this was the last of the \$60,000,000 stock remaining in the company's treasury. The activity of the American Car & Foundry Company in the export field is yielding results. Much new business has been brought in from abroad.

The National Wire Corporation of New Haven, Conn., have declared an initial quarterly dividend of 1½ per cent. on the preferred stock, payable August 9.

The stockholders of the National Tube Company will hold their annual meeting in Jersey City on August 20.

hold their annual meeting in Jersey City on August 20.
The Pressed Steel Car Company will pay a quarterly dividend of 11/2 per cent. on the common stock on August

The National Carbon Company, Chicago, have declared the regular quarterly dividend of 1% per cent. on the preferred stock.

The Tennessee Coal, Iron & Railroad Company make

the following report for June and for six months:

| Net  |          |        | * * * * * * * * * | 1900.<br>\$184,037<br>54,777 | Increase.<br>\$67,578<br>8,214 |
|------|----------|--------|-------------------|------------------------------|--------------------------------|
| 9 01 | Surplus. | andina | June 30-          | <br>. \$129,260              | \$59,364                       |
| Net  |          |        | June 30-          | <br>\$1,790,099<br>328,660   | \$1,280,237<br>49,282          |
| 1    |          |        |                   | .\$1,461,439<br>Radiator     | \$1,220,955<br>Company         |

of Chicago are to meet August 1 to declare the usual dividend on the preferred stock.

The People's Natural Gas Company of Pittsburgh have declared the regular quarterly dividend of 2 per

The net earnings of the Colorado Fuel & Iron Com-

pany for May are reported as aggregating \$226,000.

The regular quarterly dividend of 1½ per cent. has been declared by the Ashton Valve Company, payable August 15.

Directors of the Andover Iron Company have declared a dividend of 5 per cent., payable September 1.

The Westinghouse Brake Company, Limited, London, England, have declared the regular semiannual dividend of 5 per cent., payable July 30.

## Trade Publications.

Exhaust Fans.-The American Blower Company of Detroit, Mich., have completed a catalogue describing the many patterns of exhaust faus constructed by them. The housing in their steel plate fans is supported by a circular cone shaped casting which is a part of the arm supporting the journal boxes. On the opposite or inlet side is another casting with a foot piece extending to the floor, bolted on in the same manner. These carry the housing between them by means of bolts. The housing itself is made of heavy steel plate with an angle iron frame. This form of construction makes the fan reversible, and besides permits of the direction of the discharge being changed to any angle.

Industrial Railways, Conveying Appliances, &c.— The C. W. Hunt Company of West New Brighton, New York, have issued a pamphlet intended to serve as an introduction to the general line of machinery manufactured by them. It will prove to be of value to all those who have handle materials. Brief mention is made of steam and electric hoisting engines, coal elevators, industrial railways and the like.

Plain and Ornamental Metal Work.-A profusely illustrated catalogue has been received from the Lasar-Letzig Mfg. Company of St. Louis, showing their many patterns of wrought iron and wire fences, window guards, counter railings, office partition railings, elevator inclosures, ornamental wrought iron or steel window guards, stable fittings, malleable iron roof crestings, weather vanes, steel door mats, metal lawn furniture, and the like. The designs are all exceedingly attractive and counter to illustrate the great variety of patterns may and serve to illustrate the great variety of patterns manufactured by the company

Sparks from the Crescent Anvil.-We have received from the Crescent Steel Company, Pitsburgh, a copy of the July issue of the monthly publication devoted by them to general information on steel, with a particular bearing on the steel manufactured by themselves. The July issue contains a number of illustrations of buildings at the Paris Exposition, together with a considerable quantity of interesting and valuable technical matter.

Forming Lathes.-The Meriden Machine Tool Company, 106 Britannia street, Meriden, Conn., have issued a little pamphlet entitled "They All Do It," which is a very ingenious and entertaining exposition of various methods of advertising. The several methods of advertising are used for the purpose of calling attention to the company's forming lathes.

Gasoline and Steam Fire Engines.—The Waterous Engine Works Company of St. Paul, Minn., describe in a pamphlet their fire engines, operated by gasoline or steam. This gasoline engine has proved successful under the most severe tests, and is thoroughly well designed and built throughout. It is simple, of light eight, has ample power for the heaviest streams and is safe and reliable.

Presses and Dies.-This forms the title of Catalogue 13, issued by the Ferracute Machine Company of Bridgeton, N. J. In this are described their drawing presses of different types, light and heavy stamping presses, dies of all kinds, armature notching presses, cutting presses, &c. These machines are built in capacities from the lightest to the heaviest work done, and are designed and finished in accordance with the strict requirements of

Drill Grinder.-The new Yankee drill grinder is de scribed by Wilmarth & Morman Company, Grand Rapids, Mich. Their line of drill grinding machinery is adapted to every size and style of drill made, including

three and four lipped drills, flat drills, rose chucking reamers, &c. All that is necessary to grind a drill of any size within the range of the machine is to drop it into a V-shaped guide or holder, then bring up the tail stock until the drill is carried into contact with the wheel. The machine is built upon such lines that the very size of each drill determines the proper position of the holder. For instance, a ½-inch drill always stops at a certain place and cannot possibly occupy the position intended for a 34-inch drill.

Drilling Machines, Gear and Rack Cutters, Milling Machines, Tapping Machines, Grinding Machines, &c. These are all described in a catalogue of the Dwight Slate Machine Company of Hartford, Conn. Their flexible spindle adjustable head drills are designed for very light work, 3-16 inch holes and under, and are used on cutlery work, drilling rivet and joint holes, on gas jets and for light counter boring on lock frames or plates. The heads can be adjusted as close as % inch from center to center and to a maximum distance of 8 inches.

Injectors and Ejectors.-The Sherwood Mfg. Cempany of Buffalo, N. Y., have sent us a catalogue dealing with their injectors and ejectors. The main features that recommend these injectors for service are compactness, reliability and economy. All the injectors are thoroughly tested under working conditions, and are therefore sent out in proper condition to perform the work for which they are intended.

Ideal Power Wind Mills.-We have received from the Stover Mfg. Company, Freeport, Ill., an exceedingly artistic catalogue, descriptive of the Ideal power wind mill and auxiliary goods made by this company. The seeker for information relative to the advantages and benefits to be derived from the use of wind mills will get a wealth of information from this publication, which comprises 64 pages and enters very comprehensively into the subject. All details appear to be thoroughly covered, not only with respect to the character of the machinery, but in connection with towers, gearing and many of the important purposes to which wind mill power can be applied. The catalogue is replete with illustrations of an unusually high order of excellence.

The Macomber & Whyte Rope Company, successors to the Leschen-Macomber-Whyte Company, 19 and 21 South Canal street, Chicago, have purchased the entire interest of Mr. Leschen in the Leschen-Macomber-Whyte Company and will continue to do business at the old location. They announce that they have the largest stock of wire rope in Chicago and are prepared to give all orders better attention than ever. They will also continue to carry a complete stock of specialties as heretofore in mine, quarry and contractors' supplies.

The Franklin Institute of Philadelphia has awarded to Uehling, Steinbart & Co., Limited, of Carlstadt, N. J., the John Scott premium and medal for their gas composimeter, an instrument used in large boiler plants for autographically recording the percentage of carbon dioxide in the flue gases. The adoption of the instrument in Germany has been very marked. The application of the pneumatic pyrometer, made by the same firm, to annealing and tempering furnaces indicates the growth of demand for a means of centralling the best growth of demand for a means of controlling the heat with a view to securing consistent results.

An official report of the extent of the operations of the rolling mills located in Ohio has been made up and is as follows: Canton sheet mills, idle; Cambridge Sheet Mill, working, Tin Plate Mill, idle; Canal Dover, idle; Cleveland, the Cleveland Hardware Company started up on the 16th, Tin Plate Mill, idle; Lake Erie Iron Company and Company idle; Toledowskie Mills, idle; Canal Company started up on the 16th, Tin Plate Mill, idle; Lake Erie Iron Company idle; Mark Toledowskie Mills, Mills pany, idle; Dennison. idle; Dresden, idle; East Toledo, idle; Findlay, idle; Girard, idle; Ironton, Eagle, idle; Irondale, idle; Lisbon Tin Plate Mill, idle; Leetonia. Cherry Valley Works, idle; Martin's Ferry, Laughlin Tin Plate Mill, idle; Etna-Standard, started July 16; Niles. idle; New Philadelphia, idle; Haselton, idle; Piqua, closed down two weeks for repairs; Pomeroy, idle; Steubenville, idle; Youngstown, Brown Bonnell, idle; Valley Mill, Idle; American Steel Hoop Company, idle; Warren. idle; Zanesville, working.

A press dispatch from St. Johns, Newfoundland, dated July 24, says: "The Belle Isle miners' strike was ended this morning, the men gaining almost all they demanded. The new schedule of wages provides for 11 cents an hour for surface workers, 12 cents for miners below ground, and 15 cents for overtime. Operations were resumed with a full force at daylight, and the steamer 'Aggi,' coal laden, will sail this evening." The miners referred to are the iron ore miners employed by the Dominion Steel Company.

## The New York Machinery Market.

Office of The Iron Age, 232-238 William street. New York. July 25, 1900.

Machinery merchants here are still waiting for the consumer to quit waiting. In the meantime builders of machine tools are growing a little restless, and we now hear of two large concerns who have each notified their representative that prices have been cut 5 per cent. It is also said that large machinery dealers who have been placing contracts with the builders most liberally of late are now countermanding many of these orders a literally liberally that the builders with the builders most liberally to the dealers who have been placed to the dealers with the builders with the builde tle disappointingly to the builders, who will have to turn many of the machines now under way into stock. This applies, however, only to the smaller classes of machine tools. The builders of heavy tools have really been benefited in one way by the present lack of demand in the iron and steel market. Several of the gigantic iron and steel interests have seen in this period of dullness a chance for extending their works. This they are now doing, certain concerns arranging to enter into the manufacture of new lines. They are consequently purchasing quite liberally of heavy tools both for adding to their present shop equipments and for the equipment of the new additions to their works. The brass mills of the Naugatuck Valley, Conn., have been closed for repairs for the last week or so, and have been adding to their plants.

At the last meeting of the Board of Estimate and Apportionment of New York City an issue of \$150,000 in oonds was authorized for an addition to the Metropolitan Museum of Natural History. This fund will doubtless be used for the installation of the power station, which has been contemplated for many months. Plans have been drawn and specifications issued, but the authorities have been unable to purchase the necessary equipment, owing to lack of funds. Present plans contemplate the installation of about a 4000 horse-power plant. The Board of Estimate and Apportionment also granted the issuance of \$200,000 in bonds for the erection and equipment of repair shops for the fire department. Fire Commissioner John J. Scannell is now asking for bids for necessary equipment, which is to be added to the repair shops

at Canton and Bolivar streets, Borough of Brooklyn.
Contracts have been let by the Logier Motor Company for the building of a power house, &c., on the Saranac River, near Plattsburg, N. Y., where the company are locating their shops and moving their business. A. C. Rice of Worcester, Mass., is the engineer for the company. It is said that about 1000 men will be employed.

The contract for the coal and ashes handling machin-

ery for the new electric power station of the Manhattan Elevated Railroad has been awarded to John A. Meade & Co. of 11 Broadway. The apparatus consist of four conveyor systems and one steam shovel. The Manhattan Company have not yet decided upon the forced draft apparatus. The original plans have been changed, inasparatus, as that alternating current motors will be installed. much as that alternating current motors will be installed instead of the direct current motors as originally intended.

John A. Meade & Co. have been awarded contracts for two steam shovels and cable roads for handling coal and iron ore at Duluth and Chicago. The apparatus is to be installed by the Philadelphia & Reading Coal & Iron Company. They also received orders for conveying machinery, to be placed in the new power station of the Northwestern Elevated Railroad Company of Chicago, and the new Harrison Street Station of the Chicago Edison Company. They are also about to install an elaborate system of conveying machinery at the station of the St. Louis Transit Company.

The Tampa Foundry & Machine Works, recently incorporated, will build a plant at Tampa, Fla. They have purchased considerable machinery in this market, and are now looking for a few second-hand tools. W. C. Thomas is secretary and treasurer of the company.

The Atlantic Coast Line are said to be looking for John A. Meade & Co. have been awarded contracts

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The Atlantic Coast Line are said to be looking for machinery to equip a new shop which they are building at Rocky Mount, N. C. The principal offices of this road are located at Wilmington, N. C.

T. B. Baldwin, president of the Birmingham Cement Company, is now in town. He is making his headquarters at the offices of H. W. Poor & Co., 18 Wall street. Mr. Baldwin stated that the fire of last week destroyed everything at the Ensley, Ala., plant but the boilers and driers. The exact loss has not as yet been ascertained as the insurance adjusters are still at work. Estand tained, as the insurance adjusters are still at work. Estained, as the insurance adjusters are still at work. Estimates are, however, being obtained on the necessary equipment to replace that which was destroyed. Nothing can be purchased, however, until J. D. Cheever, who is the treasurer of the company, returns from abroad. He is expected within three or four weeks. The insurance will not cover the loss. The plant has only been running since the first of last May. The plant has been producing Portland cement from the slag coming from the furnaces of the Tennessee Coal & Iron Company.

Heavy orders are on hand and the company will en-

deavor to get a new plant running as soon as possible.

It is said that a new machine shop will be built at
Jersey City, N. J., by the Warwick Machine & Valve
Company, who were organized with \$100,000 capital
recently. The company will build ice machinery and

company, who were organized with spools are recently. The company will build ice machinery and valves. Newport News is also mentioned as a possible site for the new plant.

Bids are being sent to F. W. Welch, Mayor of Alexandria, La., for a high speed automatic engine, two boilers, a feed water heater, separator and air lift. J. C. Allen is Superintendent of Electric Light and Water Works

F. T. Crane, City Engineer of Orange, N. J., whose office is in the National Bank Building, Orange, N. J., is asking for bids for the construction and erection of water pressure pumping engines at Campbell's Pond, Milburn, N. J. Plans and specifications can be examined at the office of the engineer. Bids will be received until August 6. John J. Cuddy is chairman of Water Committee.

Oscar H. Opsata of Lawrenceburg, Tenn., is said to be organizing a company who propose to build a cannery. Power generating machinery and machinery for making tin cans will be required.

Until August 16 bids will be received by John N. Hayman, president of the Athens State Hospital of Athens, Ohio, for a direct connected steam engine and

A triple expansion vertical pump is wanted for the Tube Well Station of the Yonkers Water Works of Yonkers, N. Y. John C. Shotts is president of the board.

A substantial addition to their power house is being planned by the Chelsea Jute Mills of Greenpoint, L. I. They are at present in the market for a 450 horse-

power Corliss engine.

Thayer & Co., Incorporated, of 39 Cortlandt street, received the contract for the boilers to be instilled at the new naval magazine to be built on Iona Island, opposite West Point, on the Hudson. There will be three

site West Point, on the Hudson. There will be three boilers and equipments.

The Electric Launch Company, who are moving their works from Morris Heights, N. Y., to Bayonne, N. J., will build a plant which will be much larger than their former works. It is said that they intend building the "Holland" submarine boat which has been adopted by

the Government.
A. Clavel of 74 Rue Amelot, Paris, advises us that he wishes quotations and time of delivery on two Acme engine lathes, with gap bed and compound slide rest. The lathes are to be of 60 inches swing, with 6-foot bed. Mr. Clavel is a builder of machinery tools and hardware. Extensions are to be built to the plant of the Elek-

Worms, Germany. It is reported that they will require something like \$300,000 worth of machinery and tools for the equipment of the new buildings. This company have just been awarded a contract from the barbor authorities of Venice, Italy, for six large electric traveling cranes, for which American makers competed through their European agents. The company also have offices at Nuremburg, Germany.

## The Philadelphia Machinery Market.

Office of The Iron Age, Forrest Building, PHILADELPHIA, PA., July 25, 1900.

With but few exceptions a period of quietness prevails in the Philadelphia machinery trade. Comparatively few new orders are being booked, yet the shops, as a rule, continue active, due to previous bookings.

"A waiting market" must again be used as the most

expressive phrase to apply to present conditions. Manufacturers do not expect much of a betterment of present conditions before September or October. Prices are much too unsteady to encourage the placing of orders of any considerable moment, and what little buying

There is said to be an excellent demand for pneumatic tools, especially for pneumatic hammers, it being reported that one firm recently sold \$3000 worth of such hammers in one week. A good demand for the smaller classes of machine tools is also evident. These minor sales, as a rule, are not deemed of sufficient interest to report, yet in the aggregate such orders fill in big gaps on the right side of the ledger during the course of a

Between the hot weather of midsummer, the coming Presidential campaign and the unsteady condition of prices, it is safe to assert that nothing to excite any considerable interest is liable to occur among local machin-ery affairs within the next 60 days.

Nazel & Bassett, after considerable preparation, are now in a position for manufacturing power transmission machinery, shafting, &c., and already have a good sized order for shafting for local installation. Portable drills are also now being made by this firm. Nazel & Bassett are probably the only firm in this vicinity in a position to make repairs on Damler gasoline engines, such work heretofore being sent to New York. Judging from the fact that four Damler engines have been repaired by this concern during the first half of July, this branch of their business should be of some value.

Israel H. Johnson & Co. state that the past 30 days have been the busiest they have experienced since they have been in business. So fast has the work on this firm's new shop been rushed that it is expected they will be in full operation therein within 30 days. The new boilers are all in place and the traveling 20-ton crane is about to be erected. This new shop will greatly increase their facilities for turning out lathes and will enable them to make some headway on a large number of orders on hand.

The Stow Flexible Shaft Company report satisfactory conditions for this season of the year, their sales of electric portable drills being good. They have just received an order from a Boston house for one of their largest size drill plants, complete with shafting and motors.

an order from a Boston house for one of their largest size drill plants, complete with shafting and motors.

The Energy Elevator Company say the busy times still continue with them, orders for their elevators being booked very frequently. They have just received an order from a warehousing company in Japan for one of their extra size freight lifts, making the third order from the same concern in a short time.

The Energy Elevator Company make a specialty of installing lifts in private houses, sanitariums, &c., for the purpose of carrying invalids from one floor to another. This style of lift is of peculiar design, being long and narrow so as to accommodate a rolling chair or stretcher. Two such lifts were recently installed by the company for Colonel Morrell, one at his Torresdale, Pa., residence, and one at his summer home at Bar Harbor, Maine.

The Pennsylvania Machinery Company, Bourse Build-

The Pennsylvania Machinery Company, Bourse Building, report a satisfactory condition of trade. Among the month's sales are: Set of pumps and engine for the Commercial Sand Company, Lewistown, Pa.; engine and shafting for a Delaware River excursion boat, and a complete new plant for J. H. Bozarth & Sons, Ellwood, N. J., whose buildings were recently destroyed by fire. The agency for this section for the Shaw pneumatic hammer is now controlled by the Pennsylvania Machinery Company, and they state that sales to date have been very

encouraging.

The Philadelphia Machine Tool Company have removed their offices from 445 North Darien street to the adjoining building, 443, where they now occupy the entire first floor. After alterations are completed the former office space will be occupied by their pattern making department.

Thos. H. Dallett & Co. report a fair volume of trade, with an increase in foreign inquiries. This concern are making a specialty of manufacturing tools for special purposes, adapted to places requiring tools of special design, for which they state there is a good demand. The line of pneumatic tools manufactured by this firm also shows good sales.

The Philadelphia Pneumatic Tool Company, Stephen Girard Building, Philadelphia, report a good volume of trade and say the demand for their product is excellent. They have just secured orders, after severe competitive tests, for a large number of pneumatic chipping hammers from the Penn Steel Castings Company, Chester, Pa.; Cramp's Shipyard, Philadelphia; hammers and other pneumatic tools for Maryland Steel Company, Sparrow's Point, Md., and an order from the Pennsylvania Steel Company for hammers, this being the third lot ordered by that company within a short time. The Philadelphia & Reading Railway Company have also just placed an order for pneumatic tools.

Geo. V. Cresson Company are installing a considerable number of shafting outfits at the present time, and also

Geo. V. Cresson Company are installing a considerable number of shafting outfits at the present time, and also report a fair volume of trade in their other lines. Export shipments this month will include a large quantity of shafting for Cuba. Norristown and Reading, Pa., are also the destination for several lots of shafting. Considerable of the same material will also be shipped to Southern and Eastern cotton mills.

The Harrison Safety Boiler Works are running steadily with a fair number of orders on hand. They state the outlook for fall trade is encouraging.

Dienelt & Eisenhardt are kept busy on orders from abroad for oil cloth printing machinery. This concern state as their belief that after the opening of the fall season trade conditions will grow much stronger, and they look for a good volume of trade later on.

The J. W. Paxson Company have secured the serv-

The J. W. Paxson Company have secured the services of Ambrose G. Warren, late with the Deane Steam Pump Company. Mr. Warren is a mechanical engineer of long experience and he will perfect the new sand blast machine which the Paxson Company are now manufacturing under recent patents.

The Southwark Foundry & Machine Company were never fuller than they are to-day. They have enough

work on hand to run full time for at least a year to come. The Bement-Miles & Co. branch of the Niles, Pond, Bement Company are running very steadily and have made heavy deliveries during the first six months of this year, but still have sufficient orders since that time to leave them in equally as good a position as that which they had at the beginning of the year. The downtown plant (Philadelphia Engineering Works) are also very much crowded, many orders for electric cranes being on hand, quite a number of which are for local concerns, otherwise for Plitsburgh and the West

otherwise for Pittsburgh and the West.

The Otto Gas Engine Company make an excellent report. They state that if their plant was twice its present size they would still be pushed for room. Heavy orders for their gas engines are on hand, many being booked from Mexico and Canada. This concern have work enough on hand to keep them rushed for a considerable time to come. Their foreign branches in France and Germany report a big European demand for their engines.

engines.

The Barr Pumping Engine Company, Germantown Junction, Philadelphia, have recently closed a contract with the city of Haverhill, Mass., for a 6,000,000-gallon horizontal cross compound condensing crank and fly wheel pumping engine. This engine is to be in all respects similar to one that has been installed by this company for the city of Waltham, Mass., and which on test gave one of the highest duties that has ever been recorded for compound pumping engines.

corded for compound pumping engines.

The shops of the Baldwin Locomotive Works continue busy. A slight let up in orders is noticed, but is expected at this time of year. This firm say the outlook for a busy season the coming fall is splendid. They will ship among others this month 15 large passenger locomotives for the Lehigh Valley Railroad Company and also two large passenger engines for the Union Pacific Railroad; the latter engines are to be equipped with the Vanderbilt patent fire box. Other shipments include many small lots of one and two engines to various railroads and business concerns.

roads and business concerns.

The Nafie & Levy Shipbuilding Company report a most excellent trade condition. Work on the torpedo boat destroyers is progressing rapidly, and it is expected that the "Bainbridge," "Barry" and "Chauncy," three boats of this class, will be launched on July 24, as will a large tug for the Rockland & Lockport Cement Company of Portland, Maine. On July 26 a large tug for F. W. Munn & Co., Philadelphia, will be launched, and on July 31 the new fire and police boat, "Samuel H. Ashbridge," will be launched. The laying of the keel of the cruiser "Denver" will be begun as soon as the above mentioned boats are launched and the necessary room secured.

## The Cincinnati Machinery Market.

Office of The Iron Age, Pickering Building, Cincinnati, Ohio, July 23, 1900.

There has been no time within recent years when operators in the several branches of the iron trade were more at sea in their conjecture as to the future course of business than they are now. The wise ones who foresaw the recent boom and expanded in time to reap a rich harvest are now looking serious and studying the situation as never before. Some lines of manufacture are still quite busy, but the trade generally seems to be waiting for something, they hardly know what. All agree upon one thing and that is that until pig iron settles and commences to move again no one can do much more than guess as to the future. Many contracts recently made with the general foundries have been on the basis of about \$14 to \$14.50 for No. 2 pig iron, Birmingham. These contracts are for a sliding scale, the basis to be rearranged every three months, according as iron shall advance or recede. The machine tool trade has been dull for the past six weeks, and all the effort to dispose of finished work seems only to result in constantly increasing stocks in the warerooms at the various factories which continue to push production. There is an optimistic feeling, however, underlying the superficial discouragement, and an earby revival is not the least expected of all the events which are to be guessed at. Makers of tools say there is one feature in the general situation which must not be overlooked lightly and that is that the recent boom has demonstrated beyond dispute the prominence of Cincinnati as a world factor in the iron trade, and the superior quality of the tools turned out by her shops. These facts now stand out as established more firmly than ever. There is also a feeling quite strongly developed that prices, as a rule, are on too high a basis, and that before trade moves again with a lively foot there must be a scaling down in the selling figures of the finished product. Of course there is always something doing, and every few days a nice order drops in for some one, which enables his particular shop to run for a while long

eral enough to keep owners out of the stough of despond. One of the most active branches of the trade just now is that devoted to the manufacture of boilers. There has been a big increase in the inquiry, and order books also show that this year so far has been ahead of 1809. Within the past 60 to 90 days buyers have shown a very cautious spirit, and slowness in the closing of contracts has been the feature of the trade. Within the past week however, more contracts have been signed, and there is a feeling that raw materials are about as low as they may be expected to go. It is well to emphasize this fact that in this branch of business there seems to be a very

decided feeling that the outlook for the remainder of the

year is exceedingly good.

The McIlvain & Spiegel Boiler & Tank Company closed last week one of the largest contracts of recent recent last week one of the largest contracts of recent years. It is for a large number of tanks, boilers, coolers, washers and gas mains for the new gas plant being erected at Hamilton, Ohio, by the Hamilton-Otto Coke Company. The boiler will be of 1000 horse-power, 72 inches in diameter and 18 feet long, containing 70 lap welded tubes, 4 inches in diameter. The coolers will be a feet in diameter and 25 feet high: the washers are also welded tubes, 4 inches in diameter. The coolers will be 9 feet in diameter and 25 feet high; the washers are also about the same size. The total contract calls for \$40,000, and the plant when completed will be the finest coke outfit west of Pittsburgh. The same company have also taken the contract for two 72-inch by 18 feet triple riveted boilers for the Boys' Industrial School, at Lancaster,

There is now being built at St. Bernard, Hamilton County, Ohio, a large manufacturing plant by the Bow-ker Fertilizer Company, and for this the McIlvain & Spiegel Company will build two 72 x 18 triple riveted Hartford specification boilers. They have also just taken the contract for three cylinder boilers for John Barrett & Son's steamer "T. H. Davis," each boiler to be 47 inches in diameter by 24 feet in length, and to contain six 10-inch lap welded flues. They have also taken the contract for a 66-inch by 21 feet boller for the Ironton Water Works. One of the best foreign orders has just been filled, it was for four Scotch marine boilers for the Bluefields Sceamship Company, Nicaragua. The last of the quartet was just shipped.

The Tudor Boiler Company have just completed two

oil tanks for the Globe Soap Company of this city. are each 25 feet in diameter and 34 feet high, and have a combined capacity of 250,000 gallons. The same company have just shipped to a concern in East Chicago a 500 horse-power water tube boiler. They are also at work on a large tank order for the new chemical works being erected by the Mock Chemical Company on Hunt

street, this city.

The Blymyer Iron Works Company still continue to receive complaints from their agents in the Philippines regarding the tariff regulations which Uncle Sam has seen fit to establish in that country. Trade which for a time opened up in a most promising way now seems to have fallen flat, and until some change is made in conditions now existing there will be no prospect of a revival. In other parts of the Spanish speaking world—namely, Mexico and South America, trade is holding up splendidly. Among some of the very recent orders placed on the One for a complete sugar mill outfit for the State of Sonoro, Mexico, also same kind of order for a town in the South of Mexico. Both these orders are for quite a large amount of money. The feature of domestic trade is the very active condition of the sorghum mill branch of their business. These outfits are comparatively inexpensive, involving an outlay on the part of the pur-chaser of no more than possibly \$125. The demand just now from Kansas and Missouri is quite large. A

just now from Kansas and Missouri is quite large. A sample order from a dealer in a town in one of those States just received was for one carload, or \$1800, of these outfits. The general average of trade is good, and the outlook for the fall is considered as encouraging.

The Hall's Safe Company, who are one of the new concerns in this line and who appear to have been most fortunate in their choice of a time for embarking in business, say that their two years' experience has been far beyond their most sanguine expectations. The members of the company of course, were all men who had far beyond their most sanguine expectations. The members of the company, of course, were all men who had been thoroughly trained in the old Hall's Safe & Lock Company, and so it can hardly be considered as a new company in the general acceptance of the word. The foreign demand for American safes is something phenomenal, and shipments are being made to every country on the globe almost. Last week a carload was started to their agent at Shanghai, and the country tributary to Port Arthur and Vladivostok is proving a fine field for cultivation. At present Holland and Mexico are among the best foreign customers. In addition to are among the best foreign customers. In addition to the very good trade in small safes the company is successful in the landing of quite a share of the large vault work which is being offered. Among their most impor-tant contracts is that for the vaults for the Union Safe Deposit & Trust Company's new building in this city, to which they are now putting the finishing touches.

have secured the contract for the vaults for the Continental Trust Company's new building, at Baltimore. Also, same for the Mississippi Valley Trust Company, St. Louis, and for the Merchants' and Manufacturers' Bank, at Pittsburgh. The outlook for fall trade is very nental good.

Among the very nice foreign orders received by the American Tool Works Company within the past moon was one by cable from Yokohama, from the Japanese Government, for quite a number of such tools as are used for repairs in pavy yards.

## The Cleveland Machinery Market.

Office of The Iron Age, The Cuyahoga, CLEVELAND, July 23, 1900.

Were it not for the molders' strike the majority of the manufacturers in this city would be well satisfied with conditions, in view of the time of the year and the approaching Presidential campaign. Many of the local factories have a large amount of business on hand. which was held up during the machinists' strike of two months ago, and with some of the factories it will be several months before the old business is all taken care of. As a rule the new business being received is for small and additional equipments. Considerable large business is in sight, but the uncertainty of the iron market is still helding its first and the small received and the same still helding its first is small received. ket is still holding it off. According to several people the railroads of the country are buying liberally of ma-chinery; their business has been enormous during the past two years, and they can now well afford to make improvements. There is an improvement in the second-hand machinery market, and the dealers are buying freely where prices are right, showing confidence in the future.

The molders' strike still shows no indications of a settlement, and before long the trouble is likely to prove disastrous to some of the machinery manufacturers. Many of them were enabled to lay in a stock of castings during the machinists' strike, and some of them still have a supply on hand, but these goods were all stand-ard sizes, so that where orders for machinery out of the ordinary are received it is already difficult to secure castings. In one or two cases it is possible that factories will be obliged to close down in some departments un-

less castings can be secured and a continuance of the trouble will add greatly to the loss caused by the machinists' strike.

Last week the National Founders' Association succeeded in importing a few men to take the place of the striking molders, but the number was hopelessly inadequate to the people. quate to the needs. A large number of the striking molders are leaving for other cities pending the settlement of the strike. The molders say, and the foundrymen do not contradict them, that the question at issue is not one merely of wages, but of supremacy in the management of the foundries, since the molders' union is perhaps the strongest trade overalization of the kind. is perhaps the strongest trade organization of the kind in the country, and it has been very successful in fightofficers of the National Association are holding almost daily meetings in this city, but they decline to give out any information regarding their plans.

The Ajax Mfg. Company, manufacturers of forging machinery, report that they have more business on hand than ever before, with many good contracts constantly coming in. Orders on their books at present amount to over \$100,000. The better portion of their business, however, is from the railroad interests of the country for additional shop equipments; the orders from manufacturing concerns being somewhat slack at this time. They also have considerable Government business on hand. They are just completing the largest piece of work they ever turned out, and claimed to be the largest forging machine of its kind ever built. Completed it will weigh something over 100 tons, the base alone weighing 65,000 pounds. This machine is for the Pennsylvania Railroad Company's Altoona shops. They have orders for similar machines for the Charleston Navy Yard and for the Heckert-Baltzley Billet Company of Findlay, Ohio. latter machine will be utilized in upsetting an 18-inch flange on a 13-inch tube. The Navy Department has also ordered two similar machines, somewhat smaller, for the Pensacola Navy Yard. In finishing the castings for these machines the company have designed a special tool for planing, milling and drilling. The three operations are accomplished with the single machine without moving the castings; the tool traveling over the work intend of the usual method of carrying the casting back and forth on the bed of the machine. The complete machine weighs 135,000 pounds, and the foundation plate upon weighs 135,000 pounds, and the roundation plate upon which the casting stands weighs 34 tons, resting on 5 feet of concrete. The tool was designed by J. R. Blakeslee, president of the company, and it is calculated that it will save nearly 50 per cent. in the cost of finishing. The Cleveland Crane & Car Company report a large amount of work on hand, with a satisfactory amount of business coming in; much of it being for additional equipments on former orders. They are furnishing a 50-ton electric crane to the Shewimnigan Water & Power Company, Shewimnigan, Quebec, Canada; the Halton Engineering & Construction Company of Philadelphia being the engineers for a large plant, which is being installed. They have received two additional orders for large jib cranes from the Dimmick Pipe Company of Birmingham, Ala., whose plant they equipped earlier in the year. They are building two 30-ton hand power cranes for the Pennsylvania Steel Company's plant, at Steelton, Pa., and a large electric hoist for Vicker's Sons & Maxim of Sheffield, England. They are being seriously delayed through the molders' strike, and it seems probable that they will be forced to close down a portion of their plant unless they can secure castings.

The Vulcanus Forging Company announce that they are on the market for a bow pointer and five upsetting machines. Their plant, which was completed only about three months ago, requires additional equipment to take care of business. This week they are shipping a carload of air brake forgings to the American Car & Foundry Company of Huntington, W. Va., and they have recently completed a large quantity of forgings for L. P. & J. Smith, who are building the Government breakwater at Cleveland. They are also securing a very satisfactory amount of business for their Hathaway transfer table for electric railway use. An order for one of these tables was received this week from a street railway company in the City of Mexico. Tables were shipped recently to Cape Town, S. A., and Cairo, Egypt.

The Cleveland Punch & Shear Company report but

The Cleveland Punch & Shear Company report but slight falling off in the amount of business. The majority of orders are for additional equipments for concerns to whom they have already sold, and on the whole they state that business is fully up to the standard of this time last year.

The Acme Machinery Company have a large amount of business on hand, some of which has been carried over since the machinists' strike of two months ago. The new business being received is from concerns duplicating former orders, and while the orders are somewhat smaller than usual, the bulk of business is very flattering.

Bardons & Oliver, screw machine manufacturers, state that the business at present is somewhat better than last year at this time. A number of foreign orders are being received, although for small quantities, mostly single machines.

ly single machines.

Peter Gerlach & Co., manufacturers of barrel and stave making machinery, state that their business is naturally very slack at this time of the year, and that business at present is holding out very satisfactorily. They are sharing in the common complaint of the difficulty in economic continues.

culty in securing castings.

George H. Bowler, dealer in second-hand machinery, reports that the eutlook in his line is considerably brighter than was the case two or three months back, and that second-hand dealers are buying freely. He is prepared to take on stock in almost any quantity at the right price, and is more anxious to buy than to sell just at present. Last week he bought up a large consignment of iron working machinery, engines and boilers, &c., about 50 pieces in all, at Buffalo.

The Cleveland Twist Drill Company report that the business during June was an improvement on the same month last year, but this month there has been a falling off. Orders are numerous, but the quantities called for are not so large. The company are now occupying a fine twite of non-efficient interception.

are not so large. The company are now occupying a line suite of new offices just completed.

The Snyder-Hughes Company, pumping machinery, are experiencing a good demand for pumps of standard sizes, few large equipments being called for. Difficulty in securing castings is delaying their deliveries.

The Cleveland Elevator Bucket Company have a large amount of work on hand, but their story is similar to that of other concerus; small contracts, largely for repairs and additional equipments. They have several large contracts in sight which are being held off for a still further decline in the price of material.

The local office of the Marshall-Huschart Machinery

The local office of the Marshall-Huschart Machinery Company, Chicago, report a very satisfactory business, but nearly all small orders.

but nearly all small orders.

Strong, Carlisle & Hammond are also doing a very fair amount of business for this time of the year. They report that their factories are still far behind on orders, only slight gains being made. They showed a letter from G. A. Gray & Co., Cincinnati, replying to an inquiry, and stating that the best they could do on certain sizes of planers was five and six months. They stated that other concerns were quoting somewhat shorter time, but in their opinion the factories were simply bidding for business and would not be able to supply the goods. Prices on these goods, they stated, are showing no decline.

E. A. Muller, superintendent for the Springfield Machine Tool Company, Springfield, Ohio, called on Cleveland manufacturers last week, showing photographs of a fine new line of machine tools.

## Carnegie Steel Company Going Into Rods.

In all probability the Carnegie Steel Company will break ground at an early date for the erection of a large rod mill, either of the Garrett or Morgan type. They will roll rods for all purposes, selling them in the open market. It is understood that this move has been under consideration for some time, and that the decision was made by the Board of Directors to erect what will probably be the largest rod mill ever built. The entrance of this company into the market as sellers of rods will probably cause a material change in the rod situation as it now exists. It is also reported, but not confirmed, that the company will go into the manufacture of hoops and bands.

## PERSONAL.

Harry M. Davies, formerly of Elyria, Ohio, has been elected treasurer of the Dominion Iron & Steel Company of Montreal. Canada.

John C. Cromwell of the Garrett-Cromwell Engineering Company of Cleveland, Ohio, sailed for Europe on the "St. Louis" on Wednesday.

C. O. Brunner, treasurer of the Bethlehem Iron Company and Bethlehem Steel Company, completed on July 12 his fortieth year of service. The occasion was marked by the presentation to Mr. Brunner of a silver pitcher and salver and a handsome cane from his fellow members of the staff of the two companies.

Y. Watanabe, a naval architect under the Japanese Government, and Lleut. S. Akiyama, former naval attaché at the Japanese Legation in Washington, are in this country visiting some of the principal shipbuilding and steel plants, on their way to the Paris Exposition.

Henry B. Lupton, formerly secretary of the Oliver Wire Company, but later connected with the New York office of the American Steel & Wire Company, has been elected vice-president of the Oliver Iron & Steel Company, and will be in charge of the sales department of that concern, assuming his new duties about August 15.

Charles T. Boynton, who resigned recently as general sales agent of the American Steel & Wire Company, will be elected president of the Shelby Steel Tube Company, at Gleveland, Ohio. It is also probable that A. M. Crane, formerly assistant general manager of the American Steel & Wire Company, will become identified with the Shelby Company.

Information Wanted.—Who manufactures a machine for making wooden tooth picks?

The Saginaw Mfg. Company, Saginaw, Mich., have opened a branch house at 35 South Canal street, Chicago, where they will carry a very complete stock of Gilbert wood split pulleys. G. A. Gilbert, a member of the firm, is manager of the new branch.

S. V. Huber & Co., Ferguson Building, Pittsburgh, consulting engineer for the Republic Iron & Steel Company, are drawing plans for the new continuous bar mill to be added to the Bessemer plant just finished by the company at Youngstown, Ohio. On the present blooming mill billets can be rolled down to 4 x 4 inches, and on the continuous mill which is to be added they will be rolled to 1½ inches in the initial heat. This mill will contain a great many new features, and work on it will be pushed as fast as possible.

Application has been made to the Secretary of State of West Virginia for a charter for the National Roofing & Corrugating Company, with a capital stock of \$5,000,000. It is proposed to take over the majority of metal roofing, metal ceiling, eave trough and conductor manufacturers of the United States, most of whose plants are in the Middle West. The main office is to be in Wheeling, and the incorporators are G. E. Needham, Cleveland, Ohio; Edward Lagenbach of Canton, Ohio; R. J. Hyndman of Cincinnati; Robt. T. Scott of Cambridge, Ohio.

## HARDWARE.

## Condition of Trade.

HE market at the present time is showing the effect of influences which operate in opposite directions. The condition of the Iron market is not such as to have a reassuring effect upon buyers, as it is not yet settled that the bottom has been reached, with a large possibility that it will decline to a still lower point. Until the downward tendency is certainly over, and there comes something of a reaction in the withdrawal of extremely low prices for Iron, the confidence of the trade in the stability of the prices of raw material is not likely to be fully restored. This condition, of course, tends to repress transactions, and yet the decline has been so rapid and decided that settled values, will, it is hoped, soon be reached; and in anticipation of this there is more disposition to resume enterprise and push actively in business matters. The general prosperity of the country, and the regular and steady consumption of goods, is an influence which tends to the revival of business, and it is noticeable that orders are coming in more freely from the retail trade generally, and that there is a willingness on their part to purchase in sufficient quantities to keep their stocks in good shape. Reports from both manufacturers and jobbers indicate that retail business is on the whole fairly good. For the past few months the jobbing trade have been buying very few goods, their energies being devoted to marketing their stocks. In this they have been quite successful, though at the expense of a good deal of irregularity in price. Some of them are beginning to enter the market again, and orders from this class of merchants show something of an improvement. There is a gradual revision of prices on the part of manufacturers, but many lines are held at former quotations. In many kinds of Hardware in which labor is an important element of cost the decline in the raw material does not much more than offset the increase in wages. On this account, there is a good deal of steadiness in the prices of many miscellaneous articles. Indeed, in many lines of goods the cut prices which are being made by the jobbers are introducing more of the element of weakness than of concessions made by the manufacturers. On the whole the situation appears to be clearing somewhat, with indications for a gradual revival in activity and a good business in the fall.

#### Chicago.

#### (By Telegraph.)

One significant feature of the present Hardware trade is the increasing number of mail orders. It is inferred that these orders mean a quick need of the articles bought. Salesmen also are sending in better lists. This is explainable in part by the return to the road of many salesmen who during the first half of the month took a vacation. On Monday this week the business of one large Chicago seller was by far the best for any day this month. Salesmen say that dealers do not complain about their own trade, as a rule, and that I ost of them find it satisfactory, with, of course, exceptions in those localities affected by unfavorable crop conditions. Rains have brought more refreshing news from the North-

west, and the disposition is to look for a very fair trade from localities that looked very unsatisfactory from a trade standpoint a month ago. But buying is mainly restricted to quick needs, the rapid recurrence of orders compensating for their deficiency in size. First impressions are that present trade is quiet. It is only when totals are reached that the situation brightens, especially when it is remembered that this is July. Heavy Hardware continues a notable department of the trade. The interest lately shown in Bars has imparted an impetus to buying, and there is now said to exist a general inclination among small industrial plants to arrange for their material.

#### St. Louis.

#### (By Telegraph.)

The number of mail orders being received by jobbers and rather limited wants specified emphasize the fact that dealers are not buying much beyond customers' needs. There is surprise expressed by some jobbers that certain lines of fall goods, on which declines cannot reasonably take place, are not now arranged for by the trade. It is apparent that the tendency is to hold back until consumers show greater energy. Some jobbers also admit that the conservative course of retailers has made it necessary for them to withhold in turn specifications to manufacturers. Telegraphic orders are being received for goods which were not liberally provided for the summer trade, and this class of quick shipment requests is expected to extend beyond the usual period. In speaking of trade conditions decided importance is given to the good influence which will be exerted by the returns from generous crops on the buying during the remaining months of this year. The demand for Heavy Hardware is without noticeable change. Small buyers are confining themselves to purchases for immediate wants. One of the prominent factors in the Heavy Hardware trade expressed his conviction that prices for raw material had touched bottom, and acted on it by making some heavy purchases.

### Notes on Prices.

Wire Nails.—The trade are not anticipating an especially active market at this season, but the volume of business is said to be up to reasonable expectations under existing circumstances. The trade are buying only in such lots as are needed to meet their early requirements, but it is said that orders are coming in a little more freely. Prices continue without change as follows, f.o.b. Pittsburgh, terms 60 days, or 2 per cent. discount for eash in 10 days.

| TOT | casu in   | 10 | Citt's | 7.  |    |     |      |    |    |     |   |      |     |       |   |      |     |      |
|-----|-----------|----|--------|-----|----|-----|------|----|----|-----|---|------|-----|-------|---|------|-----|------|
| To  | jobbers   | in | carle  | oad | lo | ts. |      |    |    |     |   |      | 0 0 |       |   | <br> | . 8 | 2.20 |
| To  | jobbers i | n  | ess t  | han | e  | ark | oad  | 10 | ts |     | 0 |      |     | <br>0 | 0 |      |     | 2.25 |
|     | retailers |    |        |     |    |     |      |    |    |     |   |      |     |       |   |      |     |      |
| To  | retailers | in | less   | the | n  | ca  | rlos | ad | 10 | ots |   | <br> |     |       | 0 |      |     | 2.40 |

New York.—The New York market is quiet, as the trade are experiencing the usual midsummer dullness. Improved indications for building are having a somewhat beneficial effect, and Nails are moving a little more freely than heretofore. For small lots from store \$2.60 represents the general price. Quotations are as follows:

To retailers, carloads on dock. \$2.48 Small lots from store. 2.60

Chicago, by Telegraph.—Orders maintain a volume quite satisfactory to sellers. July, it is said, is doing rather remarkably well, due to the widespread building activities. Prices are without change, store quotations being \$2.43 for carloads, and \$2.50 for small lots.

St. Louis.—There is a light demand at no change in price. Carload lots to retailers are \$2.45, base; less than carloads, \$2.55, base.

Pittsburgh.—Orders for Wire Nails are mostly for small lots, and these are not very numerous, but indicate that stocks in the hands of jobbers are low. It is still being predicted that another reduction in price of Wire Nails will be made, and this is probably inducing the trade, to some extent at least, to buy only for immediate wants. We quote as follows, f.o.b. Pittsburgh, terms 60 days, or 2 per cent, off for cash in ten days.

| To jobbers   | n carload   | lots      |       |     |  |  |  | 0 | 0 1 |     | \$2.20 |
|--------------|-------------|-----------|-------|-----|--|--|--|---|-----|-----|--------|
| To jobbers 1 | n less than | carload   | lots. |     |  |  |  |   | 0   |     | 2.25   |
| To retailers | in carload  | lots      |       | 0 0 |  |  |  |   |     |     | 2.30   |
| To retailers | in less tha | n carload | lots  |     |  |  |  |   |     | 9 8 | 2.40   |

Cut Nails.—There have been no special changes in the Cut Nail market during the week under review. Merchants generally have the impression that prices are relatively high, in view of the cost of raw material, and are accordingly buying very conservatively. While no direct intimation is given of it, the trade would not be surprised by the announcement of somewhat lower prices. Quotations are as follows, f.o.b. Pittsburgh, terms 60 days, 2 per cent. off in 10 days:

| Carload lots     |     |      |         |       | <br> | <br> | 0 0 |     | <br>\$1.95 |
|------------------|-----|------|---------|-------|------|------|-----|-----|------------|
| To jobbers in le | PSS | than | carload | lots. | <br> | <br> |     | 0 0 | <br>2.00   |
| To retailers in  |     |      |         |       |      |      |     |     |            |

New York.—Prices in the New York markets continue somewhat uneven, as there is not entire agreement between the merchants. The volume of business is only moderate. Quotations are as follows:

| To jobbers in carload lots on dock\$           | 2.13 |
|------------------------------------------------|------|
| To jobbers in less than carload lots on dock   | 2.18 |
| To retailers in less than carload lots on dock | 2.31 |
| Small lots from store\$2.25 to                 | 2.30 |

Chicago, by Telegraph.—Trade is inclined to be dull. Prices hold at \$2.25 from store, with orders few and of small size.

St. Louis.—No great activity. One of the smaller mills in this vicinity has shut down for the week. Price remains at \$2.30, base, from store.

Pittsburgh.—Orders are light and only for small lots, buyers believing that prices will go lower. We quote Cut Nails at \$1.95 to jobbers in carload lots, \$2 to jobbers in less than carload lots, and \$2.10 to retailers in less than carload lots, all f.e.b. Pittsburgh, terms 60 days, or 2 per cent, off for cash in 10 days.

Barb Wire.—Manufacturers report a slight increase in the demand, but trade is not active. The outlook for business during the fall is generally regarded as good. Quotations for domestic trade are as follows, f.o.b. Pittsburgh, net cash 60 days, or 2 per cent. discount for cash in 10 days:

| To jobbers in carload lots, r'ainted               | \$2.50 |
|----------------------------------------------------|--------|
| To jobbers in carload lots, Galvanized             | 2.80   |
| To jobbers in less than carload iots, Painted      | 2.55   |
| To jobbers in less than carload lots, Galvanized   | 2.85   |
| To retailers in carload lots, Painted              | 2.60   |
| To retailers in carload lots, Galvanized           | 2.90   |
| To retailers in less man carload lots, Painted     | 2.70   |
| To retailers in less than carload lots, Galvanized | 3.00   |
|                                                    |        |

Ellwood and Baker Wire is 5 cents and Washburn & Moen Glidden 10 cents per 100 higher than the foregoing prices.

Chicago, by Telegraph.—Plain Wire continues a good seller, demand from manufacturers being of a most persistent character and also of generous proportions. Barb Wire is less in demand, sales being at perhaps the low ebb of the year, though seasonably fair. Prices are without change. Quotations for small lots, Chicago delivery, are \$2.40 for Plain Annealed, \$2.75 for Painted Barb and \$3.10 for Galvanized Barb Wire.

St. Louis.—Small sales and heavier shipments not anticipated for some weeks. Price for Painted to retailers in car lots is \$2.75, less than carloads \$2.85; 30 cents advance is asked for Galvanized.

Pittsburgh.—There is very little doing. We quote Galvanized Barb Wire \$2.80 in carload lots to jobbers, and Painted at \$2.50, terms 60 days net, with 2 per cent. discount for cash in 10 days.

Plain Wire.—No change has been made in the prices of Plain Wire. Trade continues sluggish, but with indi-

cations of some improvement. Quotations continue as follows, f.o.b. Pittsburgh, terms 60 days, o. 2 pet cent. off for cash in 10 days.

| 101 0101 111 10 011                    | Base<br>Plain. | sizes.<br>Galv. |
|----------------------------------------|----------------|-----------------|
| To jobbers in carload lots             | . \$2.15       | \$2.55          |
| To jobbers in less than carload lots   | . 2.20         | 2.60            |
| To retailers in carload lots           | . 2.25         | 2.65            |
| To retailers in less than carload lots | . 2.35         | 2.75            |

The above prices are for the base numbers, 6 to 9. other numbers of Plain Wire and Galvanized Wire take the advances indicated in the following table:

| -     |       |      |          |        |          |   |
|-------|-------|------|----------|--------|----------|---|
| Plain | Fence | Wire | Advances | (Catch | Weights) | è |

| Nos.         |        |         |      |      | Galva  |        |
|--------------|--------|---------|------|------|--------|--------|
| 6 to 9       | Base   |         |      |      | \$0.40 | extra. |
| 10           | \$0.05 | advance | over | base | 40     | 64     |
| 11           | .10    | 44      | 66   | 44   | 40     | 66     |
| 12 and 121/2 |        |         | 64   | 44   |        | 66     |
| 18           |        |         | 44   | 44   |        | 64     |
| 14           |        | 44      | 66   | 44   | 4.0    | 6.6    |
| 15           |        |         | 44   | 44   |        | 44     |
| 16           |        |         | 6.6  | 44   |        | 44     |
| 17           |        |         | 66   | 44   |        | 64     |
| 18           |        | 64      | 6.6  | 44   |        | 66     |

For even weight bundles, 50 pounds and over, 5 cents per bundle advance on above.

Pittsburgh.—Demand for Plain Wire is light, buyers placing orders only for small lots and actual needs. We quote:

|                 |                   |        | Plain. |
|-----------------|-------------------|--------|--------|
| To jobbers in   | carload lots      |        | \$2.15 |
|                 | less than carload |        |        |
| To retailers in | a carload lots    |        | 2.25   |
| To retailers in | less than carload | l lots | 2.35   |

Galvanized Wire up to No. 14 is 40 cents advance on Plain, Nos. 15 and 16, 75 cents advance, and Nos. 17 and 18, \$1 advance. Terms are 60 days net, with 2 per cent. discount allowed for cash if paid in 10 days from date of invoice.

Wagon and Carriage Springs.—There has of late been more or less irregularity in the market for Springs, but the manufacturers refer to the condition at present as being somewhat improved and prices are more regular.

Solder.—In view of the increased cost of some of the raw material prices for Solder are very firm, and some of the manufacturers are anticipating an advance in the near future.

Cotton Belting.—In view of the high prices of Duck, Linseed Oil, &c., the prices of Cotton Belting are firm. If the present condition of things continues it is probable that an advance will be made before long.

Hollow Ware.—The associated Hollow Ware manufacturers, including the following: Menard Hollowware Company, Menard, Ill.; Indiana Mfg. Company, Jeffersonville, Ind.; the Jones Hollowware Company, Baltimore, Md.; Columbus Mfg. Company, Columbus, Ohio; Blacklock Foundry, South Pittsburg, Tenn., and Phillips & Burdoff Mfg. Company, Nashville, Tenn. held their monthly meeting at Atlantic City, N. J., July 11, at which time prices in respective lines were reaffirmed for the coming season, the only change that was made being in English Pots, which were changed from pound price to a piece basis, as follows:

| ½ gallon15c.   | 6 gallons       |
|----------------|-----------------|
| % gallon18c.   | 8 gallons65c.   |
| 1 gallon20c.   |                 |
| 1½ gallons25c. |                 |
| 2 gallons28c.  |                 |
| 3 gallons30c.  | 18 gallons 1.55 |
| 4 gallons      | 20 gallons 1.75 |
| 5 callons 40c  |                 |

Prices on other goods are as follows:

|      | nd Wa   |     |      |     |     |    |    |    |      |   |      |  |      |  |   |   |         |   |   |     |   |      |    |
|------|---------|-----|------|-----|-----|----|----|----|------|---|------|--|------|--|---|---|---------|---|---|-----|---|------|----|
| Enar | neled \ | Vai | e,   | dis | C   | 01 | 11 | ıt |      |   | 0    |  |      |  |   | ٠ | <br>. 5 | 5 | 1 | a   | n | d 5  | 5  |
| Gem  | Pans,   | \$6 | list | t   |     |    |    |    |      |   | <br> |  | <br> |  | 0 |   |         |   |   | 0 1 |   | \$1. | .5 |
| Gem  | Pans,   | 87. | 50   | lis | st. |    |    |    |      | 0 | <br> |  | <br> |  | 0 |   |         |   | 0 | 0 1 |   | 1.   | .7 |
| Gem  | Pans,   | No. | . 19 | )   |     |    |    |    | <br> |   | <br> |  | <br> |  |   |   |         |   |   |     |   | 1.   | .1 |
| Gem  | Pans,   | No. | . 20 | )   |     |    |    |    |      |   |      |  |      |  |   |   |         |   |   |     |   | 2.   | 2  |

Light Sugar Zettles, without Bails:

| 8    | 10   | 12   | 15   | 20     | 25     | 30     | 35     |
|------|------|------|------|--------|--------|--------|--------|
| 50c. | 60c. | 70c. | 82c. | \$1.10 | \$1.40 | \$1.80 | \$2.10 |

Bails, 8 to 15 gallons, inclusive, 15c. extra. Bails, 20, 30 gallons, inclusive, 25c. each extra. Heavy Sugar Kettles............\$2.25 per 100 pounds

Country Hollow Ware....... 2.40 per 100 pounds

All attending report the usual midsummer and off season dullness of business. This brief respite is referred to as very welcome, giving the manufacturers necessary time to shut down, take stock and overhaul machinery, which has been neglected the past 12 months, on account of the large volume of business that has kept all their works busy. They are glad to avail themselves of the opportunity to put their plants in good shape to receive the trade when it does come.

Fayette R. Plumb,—The discount sheet used by Fayette R. Plumb, Philadelphia, under date July 2, shows a general revision of prices, and in many cases a slight reduction. It is noticeable that in deference to the views of the trade the terms are now 60 days, or 2 per cent. discount for cash in 10 days, instead of net cash as heretofore.

Oils.—Linseed Oil.—The Linseed Oil market is firm and steady, with no change since our last report. Raw Oil is quoted at 67 cents per gallon and Boiled Oil at 69 cents, in five-barrel lots, less than that quantity in barrels bringing 68 and 70 cents respectively. The new crop of seed seems to be held at a high price, the future of the market depending largely on the harvesting of the later crop of Flax in September and October.

## Letters from the Trade.

Our readers are invited to discuss in these columns questions of trade interest connected with the manufacture or sale of Hardware. We shall be pleased to have a free expression of opinion on subjects deserving the attention of Hardware merchants and manufacturers.

#### Jobbers Selling to Consumers.

From a prominent house in the South, doing a business principally retail, we have the following advices in regard to a petition of jobbing houses and the somewhat strained relations existing:

We have been reading with interest the letters from the trade and very frequently noticed reference made to the jobber and his attitude toward the retailer.

In this city there are three business houses who claim to be jobbers, yet they will chase the contractors for an order of two or three kegs of Nails, or for Hardware trimmings, as if their business depended upon the sales of these articles.

We have been in business but five years, and do quite a lot of jobbing ourselves, although we do not travel regularly; our store is 100 feet deep and 100 feet front.

We pay most of our attention to the city trade, and on a number of articles we have refrained from carrying a stock; we preferred to buy from the local jobbers.

Just imagine the jobbers refusing to sell us goods! Yes, actually refusing to sell us for cash or otherwise, and if one of our salesmen bappened to enter their store trying to buy something at their regular retail price, he being ordered out of their establishment!

We have been compelled to buy a number of articles in considerably larger quantities than we wanted in trying to protect ourselves against "retail jobbers." These self same retail jobbers have actually refused to buy from traveling men who have called on us; however, we are pleased to say that these manufacturers' representatives would not be bulldozed in this manner, and they continue to sell us goods whenever we are in want of anything in their line.

These retail jobbers have attempted to embarrass and prevent us from selling goods to contractors who buy one or two kegs of Nails by putting the price under our cost as they thought.

Two of these so-called jobbers are members of the State Jobbers' Association, and if we are not mistaken

one of them attended the last Southern Hardware convention held at Old Point Comfort.

We presume this will continue as long as we are in business.

## Lower Prices for Export Trade.

The following communication from Minnesota touches on the propriety of manufacturers making lower quotations to foreign than to domestic buyers, a subject which was touched upon in this column a few weeks ago:

In your issue of July 5 a New England manufacturer asks the question whether American manufacturers are justified in selling goods for less abroad than at home? He rightly says that there should be a good moral reason for doing so, if it be done.

Is it not good morals to pursue that course which will develop to their greatest capacity the iron and coal mines and cotton and iron and flour mills of the country, and to still increase their capacity?

If it be so, is it not wise to pursue that policy which will carry off surplus products in times of drought in trade, and bring in gold in exchange for labor, even at cost price?

Is it not wise and just to exchange labor for gold with the balance of the world, even at that ratio? If it be so, then should not our mills and mines (especially our mills) be operated to their utmost capacity, even if the surplus has to be sold abroad at cost? The gold exchange is the measure of our prosperity and greatness. A gold balance against us is what kept us a debtor nation for 100 years. Enormous expenditures at home for railways and other internal improvements, all paid for out of the soil, have kept the American mind intent on the interiormade us a nation of introspectives. We have now arrived at the circle of our national experience and development, and must meet the world's masters of finance and industry on their best and at their lowest level. Cheap goods abroad will alone enable us to do this successfully. That is the moral and the practice of it.

## Sweating Show Windows.

Referring to the article on keeping show windows from sweating, which appeared in our issue of May 31, W. P. Walter's Sons of Philadelphia, Pa., write as follows:

The writer read it with interest, and concurs with you in regard to the main point of keeping the temperature of the window the same as outdoors. however, one point which seems to have been overlooked by your correspondents, and that is the kind of goods shown in the window. For Building Hardware and Housekeeping Supplies it may answer very well to have direct communication with the outside air; but it will not answer where the window is filled with fine Machinists' Tools, as we know from experience that the outside air will rust the Steel Rules, Micrometers, &c., and the dust will enter through the holes no matter how fine the mesh of the Wire placed over them. Wire of fine enough mesh to exclude the dust will also exclude most of the air. For fine Tools a can of "Humidine" in the window is better than the outside air.

## Fayette R. Plumb's Catalogue.

AYETTE R. PLUMB, Frankford, Philadelphia, Pa., has just issued an iliustrated catalogue and pricelist showing a full line of Hammers, Hatchets and Sledges, Blacksmiths', Miners' and Railroad Track Tools, Picks, Mattocks, Grub Hoes, &c. This volume is a condensed catalogue for 1900 illustrating all goods shown in their catalogue of 1898, with some new additions to the line consisting of a few Hammers and a special line of Hatchets. Their telegraphic code, which was introduced in 1888, has been supplemented with an addition of a few new phrases, and the code should be consulted before ordering by wire. In front of the book are four pages, entitled "Plain Talk About Tools," in which the special merits of this entire line are specifically referred to.

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## RETAIL HARDWARE ASSOCIATION.

## THE MINNESOTA RETAIL HARDWARE DEALERS' ASSOCIATION: WHAT IT HAS DONE AND HOW IT CURTAILS TRADE ABUSES.

The following paper was read by E. H. LOYHED of Faribault, Minn., at the recent meeting of the Michigan Retail Hardware Dealers' Association at Detroit. It is of special interest in view of its careful discussion of existing trade conditions, and its statement of the methods of working adopted by the Minnesota Association, which is regarded as one of the most successful of the State organizations:

In the days of our youth we were taught that the Garden of Eden was on the Euphrates, that the earth was about 6000 years old, and that there were three learned professions, which were represented in solemn pomp by our ministers, lawyers and doctors, in the order named.

To-day you suspect old mother earth of being several millions of years along in life, you incline perhaps to the belief that Eden may have been in Java, and you find the gentlemen representing those three professions, dressed without distinctive signs of their calling, "hail fellows well met," and admitting "there are others."

In countless ways ideas accepted by the world in our younger days are discarded now. What we believed in then, or what we believe in now, may either or both be illusions, but in the practical matters of life it behooves one to be abreast of the times. We must not refuse to use the telephone just because our grandfathers never used it.

#### Necessity of Organization.

In the business world there are men to-day who do not see the use or value of organizing, with other men in the same business, associations for their mutual protection, and for the advancement of their own interest just because those associations did not seem to be necessary in times gone by. They are waiting for good crops with abnormally high prices, for a change in the political party in power or for that new railroad to bring their trade back to its former easy going prosperity, but they will wait in vain. Twenty-five years ago, when the Hardware dealer from the Mississippi Valley went to visit in New England, he compared the rushing trade in his own store with the slow going business of his Eastern friend. He smiled perhaps at the little devices that he saw for gaining customers at the 5-cent counter and the penny business. Now that the "West" has moved on hundreds of miles beyond him he finds his trade growing more and more like that of his New England brother, with the additional menace of the department store and the catalogue house.

CHANGED CONDITIONS.—He now knows that his large sales in those good old days were not due so much to his superb energy and the tremendous buying capacity of his customers which he had supposed was as much an enduring part of the "West" as was its geography, but was due to conditions which exist but once in the history of our land, and which have now passed forever.

His whole State in those days had not the population which now dwells within its largest city, but the railroad, steamboat and the prairie schooner were bringing in a multitude of customers every day. The emigrant, dissatisfied with his Eastern environment, and the fair haired sons of Northern Europe, who were passing beyond the outposts of our civilization to found new homes, had the primitive wants of the pioneer, and a simple stock could supply them. Locks, Nails, Hinges, Cooking Utensils, a few Tools and a small assortment of Cutlery made a Hardware stock in those days.

Competition Greater Among Buyers.—Competition among buyers was greater than among the sellers, and the dealer faced but few of the complex problems of today. He bought but few kinds of goods, and he merely had to see that he did not get beaten out of the pay for them. The selling took care of itself.

To-day he is obliged to carry a multitude of lines that were undreamed of then, and he finds that department stores, by dint of advertising and use of the latter day cheap, quick transportation, are depriving him of his best trade and making his store a place for people to buy only such goods as the department stores do not

care to keep; goods of but little profit to the dealer, but which nevertheless may be of supreme necessity to the customer.

AN OLD STORY.—We are continually hearing about organizations and unions being the order of the day, as if it were some new idea. It is as old as history. The evil to be guarded against is the only novelty. We are simply proceeding along well established routes, and developing prehistoric ideas in conformity with modern conditions. The isolated individual frequently finds himself in the position of not being able to cope successfully with conditions that jeopardize his safety or his well being, and he finds these conditions changing according to the age in which he lives. In a primitive state the one thing aimed at was to secure personal safety from savage beasts, and so he formed an association of lake dwellers, whose houses, perched on piles, composed a village where all could dwell securely.

As the wild beasts disappeared danger to the individual came from other men, and these associations became tribes, and finally walled cities were built to withstand outside invasion.

COMMERCIAL WAR.—We have wars to-day, but ours is a commercial age, and war is seldom known unless to gain commercial ends.

Commercial strife, however, is almost as bitter as military strife on the field of battle. We are entitled to "life, liberty and the pursuit of happiness," and the courts protect us, but when it comes to the pursuit of wealth the battle seems to be with the strong, and so our various modern trade and business organizations have come into being and the weakness, the fallibility of the individual becomes the strength and power of the union.

Universal Competition.—The most difficult idea for a man to comprehend in the retail trade is that the resistless force and terrific results of competition are general and widespread. Unless he will look about and study its effects in other localities he will be apt to feel that he alone is the special target for the slings and arrows of misfortune. If he will investigate he will find that competition is everywhere to-day. He will find it in its greatest force where modern business facilities exist in greatest perfection. He will also find that it is not a century old, but that it came into existence with the introduction of power machinery, by means of which overproduction is so easily brought about. When he sees the results of the so-called cutthroat competition he begins to doubt the truth of the maxim which he heard in childhood, "Competition is the life of trade."

He sees that the modern trade appliances, the railroads, the steamship, the telegraph and the telephone, working together with power machinery, allow the quick massing of merchandise under the most favorable circumstances, and he finds that goods are gladly sold at almost any profit so surely, quickly and accurately can they be replaced.

Outside Competition.—In addition to his strong local competition he finds the mail, the express and the cheap fast freight delivering goods from the department stores, catalogue houses and the retailing jobbers to his own customers. Recognizing the fact that the time was ripe for Minnesota Hardware dealers to join forces for self protection, Chas. F. Ladner of St. Cloud, at the expense of a good deal of time and money, got a number of Hard-

ware retailers together in 1897 in St. Paul and an organization was perfected. We had that first year somewhere about 100 members, but thanks to the untiring energy of men like Ladner and our president, James O'Brien of Crookston, coupled with the aid of an extremely competent secretary, we are now, in our third year, about 500 strong and growing. We found so many matters that militated against our success at the start that we would never have made any headway but for the energy and ability of these men. Most men expect to accomplish a lot of reforms at once, and if they don't succeed along the whole line they want to drop the matter. There is a class also who are willing to belong to such an institution but expect the "other fellow" to do all the work while they stand back and criticise. Here, again, we have been fortunate, both in our officers and in our membership. We all know that "Rome was not built in a day," and we can see such progress now that we feel sure of ultimate success, when our body has a greater membership and we secure the co-operation of other States.

#### An Issue with Jobbers.

When that time comes we shall have influence enough to enforce all legitimate demands and we believe from the growing enthusiasm in our own and in other States that that time is not far distant. The report of our secretary in 1898 shows that our local jobbers claimed that there were 2500 dealers selling Hardware in the State, which means that 2500 firms or persons were regularly trading with them and receiving their circulars. Upon investigation he found that their list included "well diggers, tin shops, blacksmiths, repair men, junk shops and supply houses," and that there were but 1300 retail Hardware dealers instead of 2500. This cut off nearly half the number of customers which the Twin City and Duluth jobbers had in Minnesota, and these jobbers, probably realizing that our success was their success and not being overcheerful in regard to the extraordinary growth of the supply houses which they had helped to build but which now buy direct from the factories, and from the further fact that we had an aggressive organization, promised not to retail any more and not to sell to the supply houses.

PROMISES REDEEMED .-- These promises have been kept. The only troubles we now have with jobbers are those from outside the State, and as they learn that we are watching them they also fall in line. Our secretary wrote to about 400 firms and manufacturers outside our State who sell goods to us, stating the object of our organization, and we have secured the co-operation of a large number of them. An instance of a matter under consideration at our last meeting will show what we have to contend with. A jobber known as "favorable" and who does a large business in our State, doing business, we will say, in Chicago, sold 500 X Y Z Freezers to a department store in Minneapolis for direct shipment. Now the X Y Z people are friendly to us and would not knowingly ship goods to that department store, so the Chicago jobber had them shipped to "J. F.," or some other initials, which were not the initials of the Minneapolis firm. Our secretary became informed of the transaction and we will know the result of his correspondence with the Chicago firm when the next "pink list" is issued. If the firm is reported "unfavorable" they will wish they had never sold those Freezers.

WHEN CONSUMERS BOUGHT OF JOBBERS.—There has been a time in Minnesota when nearly every customer who was so inclined bought of the jobbers. If a repair man wanted 50 feet of Wire Screen he wouldn't pay the dealer ½ cent profit. He sent to a jobber and bought it. When he figured his freight he had perhaps paid more than that, but he had the satisfaction of knowing that he had bought it "at wholesale," and he was continually trying not to trade at home where he earned his living. No one blames the jobber. Present conditions were of slow growth. When he first started he sold only to retailers, but competition became stronger and stronger and he finally sold to these people, not so much be-

cause he wanted to, but because his competitor would if he did not. When an organization such as ours insisted that he should stop that kind of business he was no doubt glad to do so. It is different with the supply house. The supply house is practically a creation of the jobber, and the jobber didn't know what he was doing when he created it. He thought it was a very nice thing when the buyer from a supply house came in every morning with a constantly increasing list of wants and paid the cash, but he overlooked the fact that his retail customers were therefore prevented from selling these same goods. When the supply house got big enough to buy from his factories and in as great or greater quantities he suddenly discovered that his retail trade was not selling as many of these same goods as formerly, and by the same token he wasn't either.

ON WHAT CONDITIONS RETAILERS WILL HELP.—Now he wants the retailers to help him out, and the retailer will do it if the jobber won't retail or sell sort up orders to the supply house. The interests of the wholesaler and retailer are reciprocal.

In a letter lately received from our secretary he says, "The growth of our association, in my opinion, can be attributed to the advanced stand taken when our resolutions were adopted. To this we have adhered, not only to the letter of the law, but to its spirit as well. We have no half way station anywhere along the line, and we make no compromise with any violators of these resolutions under any circumstances whatever.

"Those not with us we give the benefit of the doubt of being against us and act accordingly. We are the only Hardware association that issues a 'pink list,' or, in other words, a list of jobbers and manufacturers who seek the trade in our State wherein they are reported favorable or unfavorable to our association work."

#### Pink List Persuasion.

The manufacturers of a Refrigerator may think it is all right to round out a trip through Michigan by selling a catalogue house a carload or two at a much iess price than you paid, in order to dispose of his surplus, you know, but if your secretary should write him a polite note, calling his attention to a few matters, and would also write the Minnesota secretary, for instance, the Refrigerator man would think twice before he again disposed of his surplus. It is not pleasant for a manufacturer or a jobber to be on the "pink list" of a State wherein he desires trade.

A HARDWARE STOCK.—Our association is asking nothing unreasonable. The Hardware business is peculiar in that it has to do with so many necessities that are valueless unless some one actually needs them, and so many goods which cannot be used as substitutes. So many goods, too, whose profit will not pay the interest on the investment, so seldom are they called for, but which the dealer finds he must carry. This class of goods, while of special convenience to the customer, is never carried by the supply house or department store. If a customer wants a Bolt or an odd sized Screw he cannot substitute a Clothes Wringer or a Pitchfork. The Hardware store is an accommodation to the customer as well as the customer to the Hardware store. He may go without a new piano or that new carpet he was expecting to buy, but if the Planger breaks in the Cistern Pump or the catalogue house did not send the Screws with his Barn Door Track it is very handy to be able to step into the Hardware store and get them, but just the same the Hardwareman must have some of the trade in the more important lines or he won't be here to supply the Pump Plupger and the Track Screws. A man can't live by selling only Nails, Barb Wire and emergency repairs. The catalogue house does nothing to support your home town. If there is a fair to be gotten up or a celebration of any kind you contribute. If there is a church to be built within trading distance you subscribe, and if some poor fellow is injured or dies leaving an impoverished family you add your mite.

Your advertisement in your local papers costs you

several hundred dollars a year. The assessor can find your stock, and you pay more taxes in proportion to your wealth than any one except your brother storekeepers. Finally, there will come a day when the local undertaker and the livery man will turn an honest penny because you have been living in the town. Living and dying you spend your money there. These various contributions, voluntary or involuntary, on your part are avoided by the non-resident supply house. There is one thing certain, the manufacturer and the jobber cannot continue selling the retail supply house at less prices than they sell the regular trade and expect to have any regular trade left.

THE JOBBER'S VISION.—The jobber is evidently about satisfied that there is nothing in it for him to continue so doing and the question is now up to the manufacturer, and when he considers the dictatorial attitude of these modern Molochs he will find but little pleasure in the reminiscence. What has caused the tremendous increase in the catalogue houses, fair stores or whatever we may choose to call them? Is it because they sell cheaper than others? If so, how can we account for the sudden riches and the marvelous prosperity of their owners? It would seem as though they had used a larger part of their Hardware line to make leaders of and have sold the remainder of their stock at about such prices as they choose to ask. They have hypnotized the man they buy of and the woman they sell to, and realize the gambler's maxim that "there is a sucker born every minute." "'Tis distance robes the mountain in its azure

The frugal housewife scans the Sunday advertisement and on Monday hastens hot foot for a bargain in Base Burners. She doesn't inquire prices at her home store, because she knows from the wording of the "ad." and from the beautiful cut of the Stove that she can buy in the city much cheaper than she can at home from the man who patronizes her husband.

TROUBLES .- When the Stove arrives the trouble begins. It must be blackened, put together and set up. This is where her husband gains a bit of experience. When the Stove is at last set up he feels as though he had earned rather more than the imaginary sum his wife had saved on her purchase, besides feeling that it was very fortunate that he could drop into the local dealer's and buy the Damper, the Coal Hod or the Taper Joint that the city dealer didn't send, and he will frequently wonder if he has jeopardized his chance for peace beyond the grave by his remarks when he was setting up the Stove. You must often sell "on trial," or guarantee, or some foolishness of that sort. The catalogue house never does. You may try to get \$30 for a Thresher Belt that you warrant. Your friend who wants one reads in the paper that Smith's Supply House will sell him one for \$28.90. He sends in his money with his order. In three days the Belt comes to pieces. In response to his written protest to the house he receives some beautiful words of sympathy and an offer to ship another Belt on receipt of another \$28.90. He will probably buy no more Belts of that house, but he figures to get even by buying something else. So after studying the catalogue with great care he sends in \$11.99 for a \$75 fiddle. It is about useless to attack this evil by educating the customer. He is too numerous. He is the same man who buys wheat options, green goods, gold bricks and Belgian hares. We must get at the jobber and the manufacturer who sell these concerns. Let them choose between the supply house and the retail Hardware dealer, and let the various Hardware associations see that they live up to their promise.

ARE USED BY DEALERS IN OTHER LINES .- Every retail Hardware dealer has seen many of the goods he deals in placed on sale and used for leaders in grocery, dry goods, fair, racket and second hand stores. He has noticed that these goods are sold at or below cost to influence the trade in other lines. The grocery man gives away Tinware as prizes for baking powder. The dry

goods store sells Mrs. Potts' Irons below cost to bring customers to a white goods sale. The fair or racket store does the same with a lot of Tinware in order that a job lot of plaster of paris statuary may be dumped on a gullible public. The second hand man does not care what he gets for his Tinware. He quotes any old price, for by so doing he may sell a bedroom set at several hundred per cent. profit. In short, there seems to be a conspiracy on the part of these and other dealers to use articles that belong to the Hardware trade for leaders

#### A Chapter on Fire Insurance.

We know in Minnesota that we could accomplish many reforms along this line if we could keep our members continually interested in co-operation, and that matter was solved by A. C. Hatch of Battle Lake, who organized the "Retail Hardware Dealers' Mutual Fire Insurance Company." We now have something to present to every dealer that shows him how he can save some money by joining us. He therefore joins and by so doing he aids us in following up and adjusting matters of vital import. We have patterned after the Retail Lumbermen's Insurance, which has been in existence several years and which has reduced their insurance to about one-third of the amount they formerly paid. Besides paying all losses at this low rate they have accumulated a reserve fund of about \$60,000.

INSURANCE PLAN EXPLAINED .- Our company takes no risks smaller than \$500 and none larger than \$3000 on a single stock. Last year in Minnesota the retail Hardware dealers paid out in premiums to the board companies something like \$75,000. The fire loss was less than \$3000, making over \$70,000 that we contribute in one year to pay losses in other lines of business, dividends to non-resident insurance companies, and the expense of doing their business. Under our system of mutual insurance we will pay only the actual loss and the trifling office expense necessary to the management of the business. The most difficult part of our business is to get a dealer to investigate our system. When he does investigate he joins us. The man in a brick building paying 1 per ecnt. or less says off hand, "I don't propose helping some one paying 5 per cent. to carry his insurance." Another says, "I want to insure for safety, I don't like these mutual companies."

Our system positively and effectively answers both of these arguments. A member applying for insurance incloses a check for the same amount which he would pay a board company. For instance, if his board rate is 2 per cent., and he wants \$2000 insurance, he sends a check for \$40. This \$40 is not lost to him forever, as in the case when he pays to a board company, but is credited to his account, and at the end of the year he receives a statement of his share of the losses, and of the amount

still standing to his credit.

In the case mentioned his losses would be about \$16 and his credit balance \$24. By remitting then \$16 he will again be insured for another year, or if he wishes to get out of the company he will receive a check for \$24. If his board rate is 1 per cent, and he wanted a \$2000 policy he would remit \$20 instead of \$40, his loss would be about \$8 instead of \$16 and he would have a credit of \$12, but when he finds that his friend in the 5 per cent. rate would have to remit \$100, and that his loss would be in the neighborhood of \$40 he sees that there is no discrimination. The 5 per cent. man on his part finds that as his loss is \$40 his insurance has in reality only cost him about 2 per cent., instead of 5 per cent., and he, too, is pleased. No member is therefore assessed specially after a fire, and there is no danger to any one who is insured of the loss not being paid, because the money is always on hand.

INSURANCE WRITTEN SINCE JANUARY, 1900 .- Since the beginning of the year we have written over \$300,000 in risks, and since our dealers have begun to understand the system new applications are coming in at such a rate that we expect to write a million dollars before the end 0

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of this year, and the sum of money saved to the merchants will be very large.

Some Conditions.—We are not allowed by the laws of our State to solicit insurance outside our borders, but we are permitted to write insurance for non-residents who apply, although our by-laws will only accept applications from dealers who are members of their own State association. We are receiving applications from remote towns and even from all surrounding States.

RISK FROM CONFLAGRATION.—Separated as retail Hardware stores are by distance, there is no possibility of a general conflagration. The class of goods carried and the class of men who own them make our risks light.

FOLLOWING AN EXAMPLE.—It is our hope that members of other State Hardware associations will carry policies with us, and, after participating in their benefit, will form like associations in their own States. When this is done dealers with large stocks can apportion their entire insurance so that it may be carried by the mutual companies of the various States.

## Curing Evils.

The Hardware dealer will also notice that the evils that menace us are not growing less, that matters are not regulating themselves, and that some beneficent power outside of himself is not going to regulate it, either.

If the retail Hardware business is to continue as a business of itself and not to become a part of some bargain store or junk shop, something must be done, and that something is to organize—that is, to create a force that will entitle our requests to be granted not only a respectful hearing, but a cheerful acquiescence.

Having now in Minnesota our organization, our "pink list," and our insurance company, we believe that we can remedy many of the evils that were destroying and lessening the volume of our trade. We ask your co-operation in order that the end may be gained with greater certainty.

## Chicago Retail Hardware Dealers' Picnic.

WENTY-ONE crowded coaches left the Northwestern Station, Chicago, on Wednesday, 18th inst., for Fox River Grove. In the coaches were 1200 of the retail Hardware dealers, their families and friends. The Northwestern made a fast run, arriving at the grove on schedule time, and every one present prepared to enjoy himself. The day was an ideal one, not a cloud in the sky, and the heat of the sun was tempered by a pleasant breeze which swept through the grove and made the weather all that could be desired. The committee acted wisely in arranging to have the picnic held at Fox River Grove, which is without doubt the best ground for such a purpose within 100 miles of Chicago. After lunch had been served an interesting programme, in which were 19 events, was carried out. There were bowling contests and a number of races for married and single people of both sexes, target shooting, races for tinners, salesmen and fat men, besides fishing contests, fancy dancing, and, last of all, a nailing contest for ladies only. The prizes were numerous and many of them valuable, including Bicycles, a Refrigerator, Ranges, Stoves, Cutlery and other Hardware articles contributed by both manufacturers and jobbers.

The following are the committees having the picnic in charge and they are to be congratulated on its suc-

#### EXECUTIVE COMMITTEE.

Tony Engelhardt, president; W. B. Costello, treasurer; Fred Ruhling, secretary; H. E. Gnadt and J. F. Borchardt.

## REFRESHMENT COMMITTEE.

L. Rosenberg, chairman; Fred. Schanze, Geo. Pfeller, L. Herzog and H. C. Peppler.

#### ENTERTAINMENT AND GAMES.

D. McLaughlin, chairman; Jas. Gormley, Leo Krue-

ger, Geo. A. Engelhardt, Martin Engelhardt and A. Ruhling

#### TRANSPORTATION.

J. L. Smith, chairman; Leo Krueger, G. A. Neebee and G. R. Lott.

## Suggestions for Hardware Clerks.

HOSE occupying clerical positions are naturally desirous of rising to places of more responsibility, but they not infrequently disregard the conditions on which promotion is usually dependent. Besides a readiness to perform their allotted tasks with promptness and fidelity and show a willingness to make themselves useful in any direction in which their services may be required, a knowledge of the business in its details is exceedingly important. Instead, however, of seeking to acquire a thorough familiarity with everything connected with the trade, many clerks are disposed to be restless, waiting for the advance which does not come, and to which, in fact, they are not entitled. In the Hardware trade there are a multiplicity of details to be mastered, and the ambitious young man will find many things to be learned before he can regard himself as a thorough Hardware-

These remarks are suggested by a pamphlet which has been issued by a prominent jobing house for private circulation among its employees. It contains so much desirable advice put in a sensible and practical way that we take pleasure in republishing it for the benefit of Hardware clerks, whether in wholesale or retail establishments:



There is no better investment of a young man's "pocket money" than the purchase of a good book, or of some part of his leisure time than the pursuit of some practical study.

"The power of doing a little depends on knowing a great deal, and a stone fit for the wall is not left long by the roadside."

There are good reasons why a large business house should fill vacancies, among the advanced positions and on the road, by promotion, rather than by help acquired from outside.

It is desirable for us to adopt this policy as far as possible. It remains with our employees to aid us in executing this plan successfully. You will need to develop a spirit of ambition, loyalty and research to be fitted for such promotion. A good Hardwareman was never made without practical study and careful, systematic methods. In short, "knowledge of details is the

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basis of success." Getting out goods like a machine a short time will not give you such knowledge

The daily demands of business are such that our experienced men cannot spare sufficient time to post you in detail-besides, information acquired by your own efforts is well learned and will become better fixed in your mind. Some self denial and courage is imperative to learn the Hardware business as it should be learned. It often seems to us that many who seek promotion do so with a superficial idea of their qualifications and fitness. want to urge upon all who have a laudable desire for advancement the necessity of placing alongside this desire the knowledge of details and tact for applying same. To illustrate: One of our ambitious clerks asking for a first-class place on the road could not tell what "Half and Half Solder" meant; another did not know a single size of Iron carried in stock; another was asked the meaning of 14-oz. Copper, and replied, "14 oz. to the sheet," and had little or no idea of Wire gauge as applied to numbers of different metals. One could not tell the application of the term "Half Hatchet;" another did not know Cut Tacks from Round Wire Tacks, and a third could not tell a "Left Hand" from a "Right Hand" Lock or Butt.

These are very simple matters, but a prospective buyer soon loses confidence in a salesman who shows weakness in details, or who is not resourceful. idea of value must be developed by contact with brands and prices; also a well defined idea of your own as to how to approach a customer; a keen sense of turning over the goods at a profit; a shrewd idea of meeting competition and holding trade without sacrificing profit. Confidence in your house and prices enables you to take care of the combined interests of your house, your customer and vourself.

To those who aspire to the road (or other advancement) we give the following items as good illustrations of work that should be done in order to obtain the promotion you seek, being only a very few of the points a trained Hardwareman should have at his tongue's end, and are given merely to illustrate broader details.

CUTLERY.-First, to be familiar with all patterns, and cultivate a taste for certain good sellers to use as favorites in starting an order; then interest the buyer in adopting our line as his. Learn the language of in adopting our line as his. Learn the language of Cutlery, and the terms *Crocus* Polish, Etched Blades, Spear Point, Clip Point, Sheep Foot Blade, Speying Blade, Marking Blade, Pen Blade, P. M. S., &c.

TABLE CUTLERY.—Understand prices by gross pieces, sets of six pairs, Balance Bolster, Solid Bolster, Lap Bolster, &c.

ster. &

BUTCHER KNIVES .- Hand Forged, Polished Swage, and what patterns are kept in all sizes.

GUNS AND REVOLVERS.—Get familiar with the Extension Rib, Bar and Back Action Locks, Patent and Snap Fore End, Laminated, Damascus and Laminated Finish Barrels, Single and Double Bolts, Rebounding Locks, &c.

Tools.-Learn the application of the terms Bell Face, Adze Eye, Ball Pien, Razor Blade, London Pattern, Filletster Plane, Step, Nosing Plane, Triple Stock, Bastard Cut, Extension Top, Patent Chuck, 6 Point,

4½ Point, &c., on Saws.

Locks.—Reverse Bevel, Patent Tumbler, Patent Cylinder, 48 Changes, Swivel Spindle, Astragal and Rabetted Front, Combined Rose, Pass Key, Brass Hub, Revolving Cylinder, &c. SMALL TRIMMINGS.—Electro Plate (or Bronze Plate), Ber-

lin Bronze, Old Copper Finish, Copal Bronzed, No. 3

Finish, &c., &c. Sheet Copper.—A knowledge of Sheet Copper, sizes,

numbers used and values.

Pressed Ware.—Understand terms Planished Finish, Retinned, &c. Know sizes of covers required for Nos. 7, 8 and 9 ware; size covers for 2, 4 and 6 quart Coffee Pots.

MISCELLANEOUS.-Triple Motion Freezers, Cleanable Flue Refrigerators, &c. What size ware fits Nos. 7, 8 and 9 Stoves.

DAIRY STOCK.-Difference between Elgin and Iowa R. R. Can Stock, IX, IXX, and IXXX Setter Bottoms.

ANISHED IRON.—Why it is made 60 inches long in place

PLANISHED IRON.of 54 inches. Difference between A. & B. Planished Iron.

WOODEN WARE.—Dowel. Hoop, Cable, Pat. Fiber, &c. FORKS.—Selected and XXX Handles, Cap Ferrule, Pat. Tang, &c.

GALVANIZED IRON.-A knowledge of Galvanized Iron, sizes, numbers and values.

SOLDER --Ingredients, brands, values; how made and

used, Half and Half, 45-55.

Nails.—Length of all sizes, rating, how many in a car.
Bolts and Screws.—What factories are best known; sizes most used. How to gain confidence of custom

ers when advising them as to good assortments.

Butts and Hinges.—What factories are best known, sizes used, how to gain confidence of customers when advising them as to good assortments.

TE.—Sizes, number of sheets in a box, applica-what grade and sizes are used; popularity of TIN PLATE. popularity of brands and grades, including Dairy Stock. does Terne Plate mean?

the terms Overlaid and Inserted -Understand Steel, Bevel Edge, Heavy Poll, Solid Steel, &c.

These items are only given to stimulate you to acquire a complete knowledge of the whole business, and thus become valuable to its interests. We cannot transform you into a business man; that remains with you. We wish you to know our numbers, sizes, brands and prices as readily as a father knows his boys. If a question comes up that you cannot solve, ask some one who knows and can give you a correct answer and encouragement to pursue your desire to learn the business.

We quote briefly from a trade paper of good repute (The article is headed "New Salesmen."):

"This article only touches upon one phase of the traveling salesman who, like a defective shot, has a short journey. There are many noble men who give dignity and character to the profession of traveling salesmen. They are honorable and straightforward. Their words are to be depended upon. They know their goods. They are not merely catalogue salesmen.

"No man who has mixed in with salesmen to-day, and the base of the salesmen to-day, and the salesmen to-day.

who has observed and thought of these things, but know that there is an ever incerasing crop of untrained and irresponsible men who are sent out to take the place of salesmen. They are not posted on their goods. They do not know anything about prices. They do not know why prices should be maintained or what arguments to use in maintaining them. They do not take time to investigate statements. They are so 'easy' that they are a temptation to good merchants. Their orders are accompanied with long letters of explanation that they are forced to meet the prices of 'Smith, Brown, Jones Hardware Company.' To expect them to have mastered discounts would be entirely out of the question. To them 80 and 25 per cent. is much better than 85; 60 and 25 is a whole lot lower than 70 per cent. They can sell Meat Cutters at 30 per cent., but they cannot sell any at 25 and 7½. Forty per cent. is a splendid price, but they would not be 'ln it' with 33 1-3 and 10.

"The writer of this article has explained to one of these salesmen how to make a sight draft on his house; he has shown him how to write it up. He has shown him that Loaded Shells were entered by the thousand, and not by the hundred; that Anvils were entered on orders each, and not by the dozen. He has called his attention. tion to the fact that when ordering Barbed Wire he omitted to state whether Galvanized or Painted was wanted, two or four point, hog or cattle. He has shown him goods in his catalogue when he claimed his house did not carry them in stock. What does such a sales-man know about the collection laws of the State in which he is traveling? What would he do in an emer-

gency?
"When a salesman visits a retail dealer, that dealer expects to learn something from the salesman. not expect to assist the salesman in writing up his

## John H. Graham & Co.'s New Catalogue.

JOHN H. GRAHAM & CO., 113 Chambers street, New York, direct Hardware manufactures tives exclusively, have just issued a fine illustrated catalogue of 408 pages, each 11 x 8 inches. In this book, which is cloth bound, are shown the goods of 46 manufacturers making a varied line of Hardware, including Screws, all kinds of Bells, Lawn Mowers, Wrenches, Saws, Tapes, Toilet Clippers, Locks, Shelf and Builders' Hardware, Skates, Curry Combs, Bright Wire Goods, Castors. Faucets, Linges, Twist Drills, Railroad Tools, Braces, Bits. Weather Strips, Trowels and various other goods of this general character and description. The book will be sent to dealers who desire a copy of it but fail to get one in the distribution. It is an exceptionally complete and comprehensive volume, representing as it does the products of so many manufacturers in the Hardware line.

## Trade Winning Methods.

This department will contain a description of approved methods of bringing customers to the store by means of newspaper advertising, circulars and such special expedients and methods as are found useful by enterprising and progressive Hardwaremen.

A cordial invitation is extended to merchants to co-operate in the effort to make it suggestive and of practical use to the trade.

#### USE OF CUTS IN ADVERTISING.

The following communication is from a Hardwareman who has given a good deal of attention to the matter of advertising. His suggestions in regard to the use of cuts may be of interest:

I notice through the columns of your journal that you have taken up the handling of stock cuts suitable for Hardware advertising. It seems to me that this plan should fill a long felt want for Hardwaremen in the smaller towns and cities. From my own experience I know that good cuts for advertising purposes are rarely easy to obtain under such circumstances, whereas they are invaluable for all advertising purposes. The effectiveness of advertising, whether newspaper, booklet, or circular, is greatly enhanced by the use of good illustrations, and it is a singular fact that most dealers in stock cuts for various lines of trade have a very poor assortment for the use of the Hardwareman. Therefore I can see no reason why this department of The Iron Age should not prove of great value to the retailer.

#### Effective Use of Cuts.

There are many things in the Hardware store which can be effectively illustrated with very small cuts. Take, for instance, Agate Ware, Tinware and Kitchen Utensils, and it will be found that a cut occupying half or even a quarter of the width of a column will greatly strengthen the descriptive matter accompanying it. By this plan of illustrating each item it will be found that several descriptions and prices can be published in the same space that would be used to display one item effectively without the cuts. It is upon these grounds that I base my theory that your service is worth much more to the retailer than you are charging him for it.

## PERSONAL LETTERS.

Gray Hardware Company, Coshocton, Ohio, find the sending of personal letters a very effective method of getting business.

THE LETTERS are typewritten, stating in a brief, straightforward manner the desire of the company to enlarge their acquaintance among farmers, and to increase their business with them. The completeness and size of the stock is touched upon, and new lines of goods added are mentioned. The ability of the firm to give the most value for the money is also claimed.

MAILING LIST.-The names of farmers are obtained from responsible persons in each township, together with the assistance of one Republican and one Democratic newspaper. The purpose is to have all the names of the best farmers in the county and close attention is paid to securing the names and revising the list often.

RESULTS.-After pursuing this method of advertising for a little over a year the business showed an increase in sales of about \$3000. The company are of the opinion that persons in the country who are not accustomed to receive much mail appreciate a personal letter, and that not only the heads of the families read these letters, but also the children, and that the first time they come to bown they are pretty sure to come and see the store. When upon a recent trip through the country a member of the firm found many people who said they had received these letters, and were disposed to be friendly.

## A PENNSYLVANIA MERCHANT'S METHODS.

D. P. Paiste of Chester, Pa., is a liberal newspaper advertiser, both in the amount of space used, which varies according to requirements, and in the frequency with which advertisements appear.

ILLUSTRATIONS, PRICES .- A feature of his advertisements is illustrations of the goods and prices. The latter are generally the prices marked in plain figures on the goods in the store. Occasionally, say three or four times a year, special prices are made on some leading goods, stating in the ad. "to-day and to-morrow" or "for this week only." Very little trouble is experienced when returning to the original prices at the expiration of the time named.

Goods Returned.-One of the rules of the establishment is that customers are allowed to return any goods they purchase if they are dissatisfied. Pains are taken to impress upon customers that any goods bought at Paiste's and not wanted after being delivered at their houses will be called for by the delivery wagon. This method of doing business has gained for the store the reputation of receiving goods returned, for any cause, without question or complaint.

## Request for Catalogues, &c.

HE office of Charles W. Leete, Pottsdam, N. Y., was recently destroyed by fire, and he thus lost a collection of catalogues, price-lists, &c. He is desirous of having them replaced by others and requests manufacturers and jobbers of goods in his line to send their price-lists and other printed matter with discount sheets. His business is that of manufacturer of Water Wheels and Mill Machinery and dealer in Mill Supplies, Steam Pipe Fittings, &c.

## John Chatillon & Sons' Catalogue.

JOHN CHATILLON & SONS, 85-93 Cliff street, New York, have just issued an illustrated York, have just issued an illustrated catalogue and price-list of Spring Balances, Scales, Butchers' Cutlery and similar goods. Special attention is called to the fact that all Spring Scales of their manufacture have their name plainly on the dial as follows: "John Chatillon & Sons, Makers, New York, U. S. A." In this catalogue is shown a full line of Scales and Balances for all kinds of trade and family purposes. There is also an extensive line of Butchers' Tools, such as Knives, Cleav-ers, Steels, Meat Choppers, Pocket Cutlery, Mills, Sausage Stuffers and a general line of small goods used by butchers.

- L. E. Miller has succeeded to the Hardware, Stove and Tinware business of Wm. Boyd & Son, Anaheim,
- H. Parker has disposed of his stock of Stoves, Hardware, Mining and Mill Supplies, &c., in Boulder, Col., to F. C. Moys.
- O. S. Stapley has purchased the entire stock of Hardware, Agricultural Implements, &c., of A. Hunstaker, Mesa, Ariz.
- T. W. Hauser has succeeded to the business of W. H. Thurston, Hardware dealer, Ames, Iowa.

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## M. S. Benedict Mfg. Company.

S. BENEDICT MFG. COMPANY, East Syracuse, N. Y., issue three catalogues of their Silver Plated Ware and Metal Goods. No. 16 contains 173 large pages and shows Silver Plated Hollow Ware and Flat Ware, many of the Bohemian, Venetian and imported Dresden Ware pieces being handsomely printed in fac-simile colors. No. 17 is a catalogue supplement for the 1900 holiday season, showing Ebony Goods, Sterling Silver Mounted Toilet Sets, Sterling Silver Manicure Articles, Ormolu Gold and Silver Plated Frames and Novelties and Ormolu Gold Plated Clocks. A third catalogue shows Silver Plated Table Flat Ware made by Wm. H. Rogers, for which they are agents.

# Laughlin Nail Company's Shovel Catalogue.

AUGHLIN NAIL COMPANY, Wheeling, W. Va., who are represented by J. C. McCarty & Co., 10 Warren street, New York, have issued a new catalogue illustrating and describing in detail their full and complete line of Shovels, Spades, Scoops and Ditching Tools. Attention is drawn to the fact that their new buildings for the manufacture of this line of goods have been built and equipped with all modern improvements, and that they are prepared to make a complete line of goods, including Plain Back, Hollow Back and Riveted Back straps. The entire line is made in four grades, branded Glessner (first grade), Dixon (second grade), Skelton (third grade) and Martin's Ferry (fourth grade). The catalogue is comprehensively arranged, showing list and size numbers, dimensions, &c., in connection with each article. Specialties will receive particular attention.

## Trade Items.

GEO. H. ISMON, formerly assistant Pacific Coast sales agent at San Francisco, Cal., for the American Steel & Wire Company, and now assistant general sales agent for this company at Chicago, was treated to an agreeable surprise a few days prior to his departure from San Francisco to accept his new position. His associates in the 'Frisco office presented him with a handsome silver loving cup, mounted on a pedestal and suitably inscribed. Frank L. Brown, Pacific Coast sales agent, made the presentation speech, dwelling on the popularity of Mr. Ismon, and the general regret at his departure, and wishing him every success in his new location. Mr. Ismon was taken entirely by surprise and responded, briefly but feelingly, thanking his associates for the magnificent testimonial of their esteem.

J. D. Warren Mfg. Company, Chicago, have prepared an effective chart or hanger which illustrates 38 designs of the Warren Cabinet Shelving for Hardware merchants. It is an attractive exhibit of many applications of the Warren system of fitting up Hardware stores, as applied to a large variety of articles. The hanger, which is handsomely printed in colors, will be sent to Hardware merchants on application. On the back of the chart a large amount of valuable information is given in regard to the special features of the Shelving, Cabinets, &c., illustrated. By means of these merchants are given a clear idea of the construction and use of this line of Hardware store furniture.

Geo. A. Corry, lately connected with the M. E. Moore Bronze & Plate Company, will represent the Goodwin & Kintz Company of Winsted, Conn., for the coming year, with headquarters at 37 Maiden lane, New York.

Ames & Winthrop, 9 West Fourteenth street, New York, have bought the entire business, patents, &c., relating to the Gate City Natural Stone Filters, formerly manufactured by Epes Sargent. The filtering medium is of porous natural stone and is made in various designs of stone and decorated porcelain Jars, which vary in size and cost. They make three sizes of Pressure Filters adapted to a sink or other faucet. One will withstand 160 pounds pressure and is of large capacity, with two smaller sizes for ordinary city use for about 60 pounds pressure. They also make a round, portable Filter that travelers can pack with their baggage, not occupying more than about 7 x 4 inches.

Warner & Rucker, 88 Chambers street, New York, manufacturers' representatives, have been appointed the selling agents of the Star Food Chopper, made by Charles D. Brown, 160-162 Duane street, New York, recently illustrated in these columns. They will look after the trade in the New England States, the State of New York and much of the territory in the immediate vicinity of New York City not in this State.

Thomas W. Munroe, manager of the Allerton-Clarke Company, 97 Chambers street, New York, sailed for Europe, July 25, on the American Line steamer "St. Paul" for a few weeks' vacation trip, visiting London and Paris while away.

THE GARLAND CHAIN COMPANY, Rankin Station, Pa., announce the purchase of the Rivet and Pump Chain departments of the American Steel & Wire Company, to which reference was made in our last issue, and mention especially the acquirement of the entire machinery, stock, good will, &c., of the Rivet department of the H.P. Nail Company, Cleveland, Ohio, and the Pump Chain department of Washburn & Moen, Worcester, Mass.

HOBART B. IVES of the H. B. IVES Company, New Haven, Conn., is a passenger on the American Line steamer "St. Louis," sailing from New York July 25. Mr. IVES will visit the exposition while abroad and join another member of his family already there.

## Price-Lists, Circulars, &c.

Steward & Romaine Mfg. Company, 124 North Sixth street, Philadelphia, Pa., have issued an illustrated catalogue and price-list of Single and Double Patent Parallel Expansion Bolts in iron and brass. A great variety of styles and sizes are offered for securing work of any kind to metal, brick, stone or similar forms of construction. It is especially requested that previous editions of this catalogue be destroyed, owing to the great number of changes, to avoid confusion.

THE TERRE HAUTE SHOVEL & TOOL COMPANY, Terre Haute, Ind., illustrated catalogue and price-list of Shovels, Spades, Scoops and Ditching Tools of all kinds. Reference is made to greatly improved facilities and the substitution of a full line of Hollow Back Shovels, Spades and Scoops for the line of Axes formerly made, enabling them to supply three varieties of Shovels—viz., plain back, riveted or back strap, and hollow back, or Cleveland.

Barnes & Nuss Company, Grand Forks, N. Dak.: lllustrated catalogue and price-list of Galvanized Iron Cornices, Skylights, Finials, Ornamental Ridgings, Ridge Rolls, Roof Gutters, Eave Trough, Conductor Pipe, &c.

IVER JOHNSON'S ARMS & CYCLE WORKS, Fitchburg. Mass., have just issued a Spanish edition of their Figures catalogue, illustrating and describing various styles of Revolvers, Shot Guns and repairs for export trade.

Buhl, Sons & Co., Detroit, Mich., wholesale dealers in Hardware, have just issued a large number of extra pages and slips for insertion in their 1897 catalogue, showing a great number of changes in list prices, &c.

## Miscellaneous Notes.

#### Lloyd Mfg. Company.

The Lloyd Mfg. Company, 1610 Central avenue, N. E., Minneapolis, Minn. (formerly the White Mfg. Company), have issued an illustrated catalogue of specialties in wire, a feature of it being a great variety of woven wire mats for doors, tables, coffee and tea pots, &c. They also manufacture woven wire brass wash boards, woven wire toasters and broilers. The mats can be made to show short sentences, firm names, or such words as Hotel, Cafe, Billiards, Lavatory. Show Room Upstairs, Wipe Your Feet, or anything of this character, as may be ordered, the words or sentences being woven in the fabric while in process of manufacture. The point is made that nothing is shown in the catalogue but original goods of their own invention.

#### Universal Holder for Clothes Drying.

Palmtag & Stull Specialty Works, 39-43 West Washington street, Chicago, Ill., for whom Hendricks & Class, 150 Nassau street, New York, are sales agents, have found another use for the Universal holder, illustrated in our issue of June 21 last. Besides holding a 1-inch flag staff at almost any angle, &c., they are using it as an always ready clothes drier. A stick 1 inch in diameter is pierced with six holes through which are passed six arms 30 inches long. When done with the device can be fastened vertically against the wall and out of the way.

## Safety Sled Skate.

The Avery Stamping Company, Cleveland, Ohlo, have put on the market an improved form of their Never Break safety sled skates, as here illustrated. The new

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feature is in the nature of a leather heel piece to keep the skate firmly in position on the feet of children, for whom they are particularly intended. The skates are made of solid steel, nickel plated, and are packed in pasteboard boxes. From the fact that each skate has



Never Break Sled Skates.

double runners no especial skill is required to use them by the most inexperienced, with little danger from injury in their use. They can be furnished in 6, 7, 8 and 9 inch sizes, complete with straps.

## Jackson Pipe Wrench.

W. W. Whitehead, Davenport, Iowa, is manufacturing the Jackson self adjusting pipe wrench, here illustrated. The parts are drop forged from crucible steel. The shank is an inserted stationary jaw with a convex face, in which face teeth are milled. The movable or upper jaw swings on parallel links and is guided by a large tooth at the head of the shank which meshes into a cut made in the lower part of the movable jaw. This feature of it is not seen in the engraving, the cut being under the links. The barrel carries a spiral spring which operates through the plunger to keep the jaws closed. The pressure on the hand lever raises the upper jaw; releasing it causes the jaw to close upon the pipe. The tension of the spring is light and just sufficient to exert the necessary friction between the three points of contact and the pipe, to insure against slipping when pressure is put on the shank to turn the pipe. The harder the pipe may turn the tighter the wrench will grip. The spring plunger and lever do no work except to close the jaws and make possible one hand operation. The spring, plunger and lever could be removed from the wrench

## Vassar Reversible Cylinder Front Door Lock.

Reading Hardware Company, Reading, Pa., and 96-98 Reade street, New York, have made an advance in lock construction by the introduction of their Vassar patent reversible front door lock No. 1500½, with vestibule latch No. 1505½ to match. This new cylinder lock has the advantage of being reversible for either right or left hand doors by removing the cap. It can also be made right hand reverse bevel or left hand reverse



Vassar Reversible Cylinder Front Door Lock.

bevel by simply changing the cylinder to one side or the other of the lock and turning the latch bolt to face in the required direction. The turn knob hub is made reversible by being secured to a movable attachment which fits into the cylinder hole on the reverse side of the lock. This lock can be adjusted to suit doors hung in any position, a feature which will doubtless be fully appreciated by dealers, who were formerly obliged to handle different locks for each of the above mentioned requirements. The interior mechanism is ingenious, though simple and very compact, the case measuring



Fig. 1.-Jackson Self Adjusting Pipe Wrench.

and it would be just as good without, except that two hands would be necessary to start the grip or exert the necessary friction. This wrench has actual three-point contact, since it can work no other way than by pushing pipe into the corner of the upper jaw. The manufacturer claims this is original with this wrench, the advantage being made that three points of contact reduces the risk of crushing 50 per cent. over two-point contact. Some of the advantages claimed for the wrench are that

only ½ inch in thickness, the distance from the face of the lock to the center of the cylinder being only 2½ inches. This permits the lock to be used on doors having a narrow stile and of any thickness from 1½ inches upward, a decided advantage, as it is frequently found to be impossible to use cylinder front door locks on account of the doors not being thick enough to accommodate them. The lock can be furnished with either one cylinder or two cylinders, to be operated by key from one



Fig. 2 .- The Wrench in Operation

It is self adjusting, can be operated with one hand, no setting or guessing at the fit, no nuts to bind, no threads to wear out and no frames to spread. All parts are interchangeable. The wrenches are made in 6, 8, 10, 14, 18, 24, 36 and 48 inch sizes, having a capacity of ½ to ½ inch in the smallest size up to 1 to 5 inches in the largest.

side or both sides, as desired. The same key operates both lock bolt and latch bolt, making it impossible for the possessor of the key to be locked out. The outside knob can be set by stop. The latch bolt has the easy spring movement commonly used in first-class locks. The vestibule latch, No. 1505½, is also adapted for use on inside doors of office buildings and apartment houses.

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## Invincible Vapor Lamps.

The Invincible Mfg. Company, Wilmington, Ill., are The Invincible Mfg. Company, Wilmington, Ill., are marketing the Invincible vapor lamps, made by them, as here illustrated. Fig. 1 representing their No. 1 lamp, has a retinned tank, iron pipe and brass burner. The tank holds one quart of gasoline and the tank and pipe are black enameled. This lamp is also made in a No. 2 style which has a semi-spherical tank, with corrugations running from the center to circumference. It is brass throughout in the metal parts and has an opal shade. The No. 3 lamp, Fig. 2, has a brass tank, holds two quarts, brass piping, brass smoke bell and brass burner. It is also made in a double style with the tank in the center. The company claim for their burners that they center. The company claim for their burners that they



Fig. 1.—Invincible Vapor Lamp Fig. 2.—Invincible Vapor Lamp

are all brass and not likely to wear out; that by reason of the construction of the burner the gas and air travel far enough to mix properly, thus insuring perfect combustion. The burner has one inner tube, which gives ample distance for a thorough mixture of gas and air. Also that the gasoline travels the shortest distance in generating, not over a half inch in the generator, the passages being ample in size so that if only gasoline is used it will not clog, while if oil gets into it it can be readily cleaned. A self cleaning needle is used so that the jet can be kept A self cleaning needle is used so that the jet can be kept free from dirt or any clogging substance

## Union Ratchet Screw Driver.

George E. Gay, Augusta, Maine, for whom John H. Graham & Co., 113 Chambers street, New York City, are direct representatives, is manufacturing the Union



Union Double Action Ratchet Serew Driver.

double action ratchet screw driver here illustrated. The double action ratchet screw driver here illustrated. The cut shown represents the vest pocket size for bicycle and similar purposes, but the goods are made in regular sizes for carpenters' use in 3, 4, 5, 6, 8, 10 and 12 inch blades with correspondingly longer handles. This screw driver has a movable knurled sliding ring; if moved toward the blade it can be used to drive in a screw; moving the ring toward the handle will permit of withdrawing a screw. When the ring is midway between the two extremes the blade is stationary and can be used either to drive or withdraw screws, the same as an ordinary screw driver. The handles are black polished hardwood, and the whole device is nicely finished.

A new brick building, strictly modern and up to date, will be erected shortly by C. E. Emerson to take the place of his Hardware establishment, recently destroyed during a conflagration in Susanville, Cal.

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|                                                                                             |       |

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# Current Hardware Prices.

REVISED

General Goods.—In the following quotations General Goods—that is, those which are made by more than one manufacturer, are printed in *Italics*, and the prices named represent those current in the market as obtainable by the fair retail Hardware trade, whether from manufacturers or jobbers. They apply to such quantities of goods as are usually purchased by retail merchants. Very small orders and broken packages often command higher prices while lower prices are frequently given to larger

Special Goods.—Quotations printed in the ordinary type (Roman) relate to goods of particular manufacturers who are responsible for their correctness. They usually represent the prices to the small trade, lower prices being obtainable by the fair retail trade, from manufacturers or jobbers.

Cut Prices.—In the present condition of the market there is a good deal of cutting of prices by the jobbing trade, whose quotations are often lower than those of the

manufacturers.

Names of Manufacturers.—For the names and addresses of manufacturers see the advertising columns and also The Iron Age Index Supplement (May 3, 1900), which gives a classified list of the products of our advertisers and thus serves as a directory of the Iron, Hardware and Machinery trades.

Standard Lists.—A new edition of "Standard Hardware Lists" has been issued and contains the list prices of many leading goods.

ware Lists" has been issued and contains the list prices of many leading goods.

Additions and Corrections.—The trade are requested to suggest any improvements with a view to rendering these quotations as correct and as useful as possible to Retail Hardware Merchants.

| facturers or jobbers.                                                                                |                                                                                                                                                                               |
|------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| - 1                                                                                                  | Axles-                                                                                                                                                                        |
| Adjusters Blind-<br>Domestic, W doz. \$3.00381/4381/4ki05                                            | Concord, loose collar64c 6 c)                                                                                                                                                 |
| Zimmerman's—See Fasteners, Blind. Window Stop—                                                       | No. 1 Common                                                                                                                                                                  |
| Ives' Patent                                                                                         | Nos. 7, 8, 11 to 14                                                                                                                                                           |
| Ammunition—See Capa, Car-                                                                            | Nos. 15 to 18                                                                                                                                                                 |
| tridges, Shells, &c.                                                                                 | Nos. 78, 11 to 14, 10) sets                                                                                                                                                   |
| Anvils-American-                                                                                     | Common and Concord, not turned                                                                                                                                                |
| Hay-Budden, Wrought                                                                                  | Common and Concord, turnedlb. ec                                                                                                                                              |
| Bamson                                                                                               | Half Patentlb. 9c                                                                                                                                                             |
| Anvils—Amorican—Eagle Anvils                                                                         | Sash-                                                                                                                                                                         |
| Imported-                                                                                            | Caldwell new list                                                                                                                                                             |
| Armitage's Mouse Hole83439'4¢ Peter Wright's9'269'4¢                                                 | Caldwell new list. 2008 Pullman's Spring— 623/45 Spring Balances                                                                                                              |
| Anvil, Vise and Drill-                                                                               | Chatilion's Light Spg. Balances 40&10%<br>Chatilion Straight Balances 40%                                                                                                     |
| Millorg Falls Co., \$18.00                                                                           | Chatilion Circular Balances50%                                                                                                                                                |
| Apple Parers-See Parers, Apple, &c.                                                                  | Harb Wire-See Wire, Daru.                                                                                                                                                     |
| Augers and Bits-                                                                                     | Bars- Crow-<br>Steel Crowbars, 10 to 40 lb., per lb                                                                                                                           |
| Common Double Spur. 60 dt 10 dt 10 dt 70%                                                            | 3%@3%c                                                                                                                                                                        |
| Boring Machine Augers                                                                                | Beams, Scale—<br>Scale Beams, List Jan. 12, '83<br>30@30@55                                                                                                                   |
| Jennings' Pattern:                                                                                   | Chattilion's No. 1                                                                                                                                                            |
| Ford's Auger and Car Bits.                                                                           | Beaters- Egg-                                                                                                                                                                 |
| Forstner Pat. Auger Bits25%                                                                          | No. 5 Steel Handle Dover. # gro. \$6.50                                                                                                                                       |
| No. 10 ext. lip. R. Jennings list                                                                    | Standard Uo. Steel Handle Dover. # gro. \$8.50<br>No. 10 Cast Handle Dover. # gro. \$8.00<br>No. 10 St-el Handle Dover. # gro. \$8.00<br>No. 15 Extra Heavy Steel Handle Own. |
| Forstner Pat. Auger Bits                                                                             | No. 15 Extra Heavy Steel Handle,<br># gro. \$15,00<br>Rival, # gro                                                                                                            |
| Durb's on wines? Dattown 95d                                                                         | No. 50 Small Family size\$6.50                                                                                                                                                |
| 8nell's Auger Bits                                                                                   | No. 50 Small Family size\$0.50<br>No. 100 Regul r Family size\$8.00<br>No. 102 Re sular Family size tinned                                                                    |
| Bacil's Auger Bits                                                                                   | No. 150 Large Family size\$15.00                                                                                                                                              |
| Bit Stock Drills-                                                                                    | No. 150 Large Family size                                                                                                                                                     |
| Standard List                                                                                        | Lyon's, Standard *153                                                                                                                                                         |
| Expansive Bits-                                                                                      | Bellows-                                                                                                                                                                      |
| Clark's small,\$18; large, \$26                                                                      | Blacksmith—<br>Standard List70@70&5%                                                                                                                                          |
| Lavigne's Clark's Pattern, No. 1, \$\pi\$ doz., \$26; No. 2, \$18                                    | Inch 30 33 34 38 39 40<br>Eacr. \$3.70 3.95 4 55 5.10 5.70 8.55                                                                                                               |
|                                                                                                      | Extra Length:                                                                                                                                                                 |
| Common Double Cut. gro. \$2,75@3.25                                                                  | Floral At an I OF E I O E OF H CO 7 OF I of                                                                                                                                   |
| Common Double Cut. gro. \$2.75@3.25<br>German Pattern gro. \$5.00@5.50<br>Bouble Cut, makers' lists. | Inch. 9 10 11 18 14 16 5                                                                                                                                                      |
| 50&5@50&10%                                                                                          | 1 1MM220.70 (.20 5 00 8.00 12.00 14.00   T                                                                                                                                    |
| Ames                                                                                                 | Inch 6 7 8 9 10 12<br>Doz\$3.75 4.25 4.50 8.00 5.75 6.75                                                                                                                      |
| Sew Patent. \$5&10\$                                                                                 | Dalla Cow-                                                                                                                                                                    |
| Ship Augers and Pite                                                                                 | Ordinary goods75&105                                                                                                                                                          |
|                                                                                                      | Ordinary goods         75&108           High grade         70@70&108           Jersey         75&25&109           Texas Star         50&109                                   |
| Sueit's 405<br>L'Hommedieu's 15&10@15&10&10&10<br>Awi Hafts See Hafts Aud.                           | Door-                                                                                                                                                                         |
| Awl Hafts, See Hafts, Aud.                                                                           | Barton G 'ng                                                                                                                                                                  |
| Awis-                                                                                                | Gong, Yankee                                                                                                                                                                  |
| Brai Ards:<br>Handled gro \$2.75@\$ 10                                                               |                                                                                                                                                                               |
| Hamiledgro. \$2.75@3.10<br>Unhundled, Shouldered gro.63@666<br>Unhandled, Patentgro. 66@70c          | Hand Bells, Polished                                                                                                                                                          |
|                                                                                                      |                                                                                                                                                                               |
| Unhandled, Patent gro. \$1@346<br>Unhandled, Shouldered.gro.85@706                                   | Form Belle                                                                                                                                                                    |
| Handled Common are \$5001 or                                                                         | Steel Alloy Unuren and School                                                                                                                                                 |
| 30 Chet. gro. \$11.00@18.00                                                                          | A HILLOR OF TLOODS WEEK. CO. COURS LON                                                                                                                                        |
| Awi and Tool Sets-See                                                                                | Belting<br>Rubber-                                                                                                                                                            |
| Aros.                                                                                                | Common Standard 70&10@759                                                                                                                                                     |
| First vality, best brands, \$5.256,6.50<br>First vality, other brands \$6.0066.28                    | Extra                                                                                                                                                                         |
| Good wality                                                                                          | High Grade                                                                                                                                                                    |
| Jobbers Special Frands:                                                                              | Extra Heavy, Short Lab                                                                                                                                                        |
| Bevele add 25c doz. \$5.50@5.78                                                                      | Regular Short Lap                                                                                                                                                             |
| Axio Grease See Grasse, Axie.                                                                        | Light Standard701                                                                                                                                                             |
|                                                                                                      |                                                                                                                                                                               |

| air retail trade, from manu-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                    |
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| Axles-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Ros                |
| Ton. Steel, 100 of the line of | Gre Gre            |
| Common and Concord, not turned                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Ill.<br>Sto        |
| Common and Concord, turnedlb. 6c Half Patentlb. 9c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Job<br>C<br>P<br>S |
| Caldwell new list                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Aug                |
| Balances—Sash— Caldwell new list                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |
| Steel Crowbars, 10 to 40 lb., per lb 51/4@31/4c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |
| Beams, Scale—<br>Scale Beams, List Jan. 12, '83<br>30@30@55                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Co<br>Cle<br>Ed    |
| Chattillon's No. 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Fo                 |
| Beaters - ESE - Standard Co.: and to the control of | Ho<br>La<br>Sto    |
| Manlin Mex Co.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Zi                 |
| No. 50 Small Family size                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Co                 |
| No. 150 Large Family size\$15.00<br>No. 152 Large Family size, tinned<br>Lyon's, Standard 4122                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | No                 |
| Bellows-<br>Blacksmith-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Ph<br>Bo           |
| Standard List70@70&5%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2                  |
| Inch 30 33 34 36 39 40 Eacr.\$3.70 3.95 4 55 5.10 5.70 8.55 Extra Length: Each.\$4.25 4.85 5.40 5.95 6.80 7.95 Molders—                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Co                 |
| Inch 9 10 11 18 14 16 E. Doz\$6.75 7.25 8 50 9.50 12.00 14.50 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Ci                 |
| Hand                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Ci                 |
| Ordinary goods        75&10%           High grade        70@70&10%           Jersey        75&25&10%           Texas Star                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Ci                 |
| Barton G 'ng                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 13                 |
| Gong, Yankee                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1 17               |
| Hand Bells. Polished                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | H                  |
| Steel Alloy Church and School                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | P                  |
| Wilmot & Hobbs Mfg. Co , Gongs70% Belting                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | C                  |
| Rubber— Common Standard                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |
| High Grade                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1                  |
| Regular Short Lap60@60&1045                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | P                  |

| -           |                                                                                                                                                                                               | _ |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
|             | Cotton— Rossendale-Reddaway B. & H. Co.: Sphinx Brand                                                                                                                                         |   |
|             | Bicycle Goods— Lane's Cycle Hanger                                                                                                                                                            |   |
|             | Auger, Gimlet, Bit Stock Drills, &c.—<br>See Augers and Bits.  Bit Holders—See Holders.  Blind Adjusters—See Adjusters, Blind.  Blind Fasteners—See Fac-                                      |   |
|             | teners, Blind.  Blind Staples—See Staples, Blind.                                                                                                                                             |   |
|             | Blocks— Tackle—  Common Wooden                                                                                                                                                                |   |
|             | Lane's Patent Automatic Lock and Junior                                                                                                                                                       |   |
|             | Zinc, Crystal, &c                                                                                                                                                                             |   |
|             | Phila. Eagle, \$3.00 list May 24, '998%<br>Bolt Ends, list Jan. 30, '95                                                                                                                       |   |
|             | Machine, list Oct. 1, '99 70&10@70&10&5% Note.—Jobbers' prices on Bolts are now often lower than manufacturers', and the market is tregular.  Door and Shutter— Cast Iron Barrel, Round Brass |   |
|             | Knob:<br>Inch 3 4 5 8 8<br>Per dox\$0.35 .36 .45 .57 .80<br>Cast fron Spring Foot:<br>Inch 6 8 10                                                                                             |   |
| 20 20 20 20 | Per doz                                                                                                                                                                                       |   |
| -           | Wrought Burret Brass K. 100:<br>Inch                                                                                                                                                          |   |
| 6 44 6      | Stove and Plow-                                                                                                                                                                               |   |
| 2 2         | Plmv                                                                                                                                                                                          | 1 |
| ***         | Common                                                                                                                                                                                        |   |
| * * * * *   | Ecopse, list Dec. 28, '9 578 Port Chester Boit & Nut Company Empire, list Dec. 28, '99 578 Keystone Phila, list Oct. '84 729, '8 Norway Phila, list Oct. '84 703                              |   |

|   | Borers, Tap— Borers Tap. Ring, with Handle: Inch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | Bright Wire Goods See Wire and Wire Goods, Brollora                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|   | Wire Goods Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| - | Butts— Brass—<br>Wrought list Sept., '96\$5&10@384<br>Cast Brass, Tiebout's                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|   | Cast Iron— Fast Joint, Broad                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|   | Loose Joint                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|   | Cages, Bird-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|   | Hendry x, Brass:  3000, 5000, 1100 series.  1300 series.  3345  200, 300, 600 and 900 series.  40 4164  Hendry x Bronze:  700, 800 series.  40 4165  Callpers—See Compasses.  Calks- Toe and Heel- Blust.  per lb. 45446  Sharp.  per lb. 45446  Perkins' Blunt.  Perkins' Sharp.  \$ 3 446  Perkins' Sharp.  \$ 3 446                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|   | Can Openers—See Openers, Can Cans, Milk—                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   | 10 gal   1 |
|   | Baltimore Pattirn 2.50 2 85 3.10 each.  Cans, Oil—                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|   | Buffalo Family O 1 Cans: \$1.75@\$2.60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 6 | Glass Oll W doz. \$1,902 \$3.96                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|   | G. D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   | Berdan Primers, \$1.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| 48                                                                                                                                                                                                                            | THE INC                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 5 til 7 20, 19 (i)                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| B. L. Caps (Sturtevant Shells)                                                                                                                                                                                                | Nichols Bros., Flat bdl., 30£; Rd. hdl., *0%<br>Fayette R. Plumb                                           | Hale's, \$\psi\$ doz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Enameled and Tinned                                                                                                                                                                                                            |
| \$1.00                                                                                                                                                                                                                        | Fayette R. Plumb                                                                                           | Hale's, \$\psi\$ doz \ \frac{65\cappa}{827.00} \ \\$33.00 \ \\$45.00 \ \text{Home No. 1, } \$\psi\$ doz, \$\psi 65\cappa 0.00 \ \\$35.00 \ \\$45.00 \ \text{Home No. 1, } \$\psi\$ doz, \$\psi 60\cappa 0.00 \  \ \\$50\cappa 10\cappa \ \text{Little Giant, } \$\psi\$ doz, \ \text{No. 305} \ 310 \ \ 312 \ \ 390 \ \ 322 \ \ 385.00 \ \\$48.00 \ \\$44.00 \ \\$78.00 \ \\$68.00 \ \text{Sterling.} \ \text{334\cappa 55} \ \text{346\cappa 56} \ 346\cap | Ware—See Ware, Hollow.                                                                                                                                                                                                         |
| Carpet Stretchers-<br>See Stretchers, Carpet.                                                                                                                                                                                 | Clippers— Chicago Viexible Shaft Company Handy Tollet                                                      | Nos. 305 310 312 390 322<br>\$35.00 \$48.00 244.00 278.00 288 00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | See Pins, Escutcheon.                                                                                                                                                                                                          |
| Cartridges— B. B. Caps. Con., Ball Swgd\$1.90                                                                                                                                                                                 | Mascotte Tollet                                                                                            | Sterling                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Extractors, Lemon Julea —See Squeezers, Lemon.                                                                                                                                                                                 |
| B. B. Caps, Round Butt \$1.12(61.10)                                                                                                                                                                                          | Mascotte Toilet # dos. \$8,40 Monitor Toilet # doz. \$9,00 Stewart's Patent # dos. \$10.00 Clips Axie      | Nos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | _                                                                                                                                                                                                                              |
| Blank Cartridges:       10¢5%         32 C. F., \$5 50                                                                                                                                                                        | Eagle and Superior 4 and 5-16                                                                              | \$22.00 \$30.00 \$40.00<br>New Triumph No. 605. \$2 doz. \$24.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Fasteners, Blind-                                                                                                                                                                                                              |
| 32 cal. Rim, \$2.751000%                                                                                                                                                                                                      | Norway, 34 and 5-16 inch65@65&5%  Cloth and Netting, Wire  —See Wire, &c.                                  | Woodruff's, # doz 383/465%<br>Nos 100 150<br>815.00 \$18.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Faucets-                                                                                                                                                                                                                       |
| Central Fire                                                                                                                                                                                                                  | -See Wire, &c. Cocks, Brass-                                                                               | Unadborn's Smoked Beef Cutter, w doz. 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Cork Lined 70450 704:                                                                                                                                                                                                          |
| Primed Shells and Bullets1505%<br>Rim Fire Sporting50%                                                                                                                                                                        | Cocks, Brass-<br>Hardware list (Globe, Kerosene,<br>Lever Bibbs, Racking, &c.)                             | Enterprise Beef Shavers25@30%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Meidine Key, Leather Lined.                                                                                                                                                                                                    |
| Rim Fire, Military15&5%                                                                                                                                                                                                       | Coffee Mills See Mills Coffee                                                                              | Slaw and Kraut-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | BAT D Co.                                                                                                                                                                                                                      |
| Bed 60&10&10@.70%<br>Plate                                                                                                                                                                                                    |                                                                                                            | Slaw, C rn Grater, &c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | West's Lock, Open and Shut Key50k10g<br>John Sommer's Peerless Tin Key. 40g<br>John Sommer's Boss Tin Key. 50g<br>John Sommer's Bottor Metal Key. 50g 10g<br>John Sommer's Duplex Metal Key. 30g<br>John Sommer's Diamond Lock |
|                                                                                                                                                                                                                               | Leather Pope & Stevens' list 40%                                                                           | Kr ut Cutters 36 x 12, 40 x 1240%<br>Tucker & Dorsey Mfg. Co.:<br>Kraut Cutters                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | John Sommer's Victor Metal Key. 50%<br>John Sommer's Dupley Metal Key. 50% Inc.                                                                                                                                                |
| Boss anti-Friction 70&108 Boss Anti-Friction 70&108 Boss Anti-Friction 70&108 Boss Anti-Friction 70&108 Payson's Anti-friction Furniture 70&108 Payson's Anti-friction Furniture 70&108                                       | Compasses, Dividers, &c. Ordinary Goods70&10@75% Bemis & Call Hdw. & Tool Co.:                             | Slaw Cutters, 2 Knife, # gr\$22@\$36                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | John Sommer's Duplex Metal Key 80x<br>John Sommer's Diamond Lock 40x<br>John Sommer's I. X. L. Cork Lined 50x<br>John Sommer's Reliable Cork Lined                                                                             |
|                                                                                                                                                                                                                               | Calipers, Call's Patent Inside                                                                             | All Iron, Cheandoz \$1.25@\$1.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | John Sommer's Reliable Cork Lined                                                                                                                                                                                              |
| Btandard Ball Bearing                                                                                                                                                                                                         | Calipers, Double                                                                                           | All Iron, Cheapdoz. \$1,25@\$1.50<br>Enterprise                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | John Sommer's Common Cork Lined, 30g<br>John Sommer's Chicago Cork Lined, 40g<br>John Sommer's O. K. Cork Lined, 40g<br>John Sommer's Perfection Cedar, 40g<br>Star.                                                           |
| See Leaders, Cattle.                                                                                                                                                                                                          | Calipers, Wing                                                                                             | Washer-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Star. Metal Phys. Star. Metal Phys. 60 20025                                                                                                                                                                                   |
| Chain-<br>American Coil, Full Casks:                                                                                                                                                                                          | Conductor Pipe, Calva-                                                                                     | Appleton's, \$\psi\$ doz. \$16.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Star. Metal Plug new list. 40@40055<br>Lockport, Metal Plug, reduced list. 60&54<br>Self Measuring:                                                                                                                            |
| <b>8.16</b> 4 5-16 34 7-16 34 8-16 7.90 6.00 5.00 4.15 4.00 3.90 4.40                                                                                                                                                         | Carload L.C.L.                                                                                             | Bonney's # doz. \$4.75                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Enterprise 2 dor #26 00                                                                                                                                                                                                        |
| % 1 inch.<br>8.70 3.65 3.55 3.55 cents per lb.                                                                                                                                                                                | Eastern6)&25&5% 60&20&24%                                                                                  | Diggers, Post Hole, &c.—<br>Dalbey Post Hole Augerner doz .\$10.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | National Measuring, # doz. \$88.00. 405                                                                                                                                                                                        |
| Less than Cask lots add 40c per 100lbs,<br>German Coil, list July 24, '97                                                                                                                                                     | Southern. 60&20\$5% 60&15%                                                                                 | Iwan's Improved Post Hole Auger403<br>Iwan's Perfection Post Hole Digger                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Felioe Plates—<br>See Plates, Felloe.                                                                                                                                                                                          |
| German Halter Chain, list July 24.                                                                                                                                                                                            | Terms 2% for cash.                                                                                         | Danier Fost nois tager. oer doz. \$10.00   wan's improved Post Hole Auger 405   wan's Perfection Post Hole Digger                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Files-Domestic-                                                                                                                                                                                                                |
| 197                                                                                                                                                                                                                           | Coolers, Water                                                                                             | Kohler's Hercules # doz. \$12.00<br>Kohler's Invincible # doz. \$10.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | List revised Non 1 1900                                                                                                                                                                                                        |
| 6 1/2 -6-2, Straight, with ring. \$26.00<br>6 1/4 -8-2, Straight with ring. \$27.00                                                                                                                                           | Labrador \$11.50 \$14.00 \$17.50 \$20.00 8 ga'.                                                            | Kohler's Invincible. # drz. \$12.00 Kohler's Rival. # drz. \$0.00 Kohler's Ploner. # doz. \$9.00 Never-Break Post Hole Diggers, # doz.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Good Brands75&10@75&10d108 Fair Brands80@80d108                                                                                                                                                                                |
| 5'4-6-3, Straight, with ring\$35.00<br>6'4-6-2, Straight, with ring\$7.00<br>6'4-8-2, Straight, with ring\$7.00<br>6'4-10-2, Straight, with ring\$55.00<br>Add 25 per pair for Hooks.<br>Twist Traces 26 per pair higher than | \$21.00<br>Not 3<br>  Zeelan 1 \$23.00 \$25.00 \$30.00 \$37,50                                             | Samson, & doz. \$34.0025%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Imported-                                                                                                                                                                                                                      |
|                                                                                                                                                                                                                               | #57.00 #1 -, 111                                                                                           | Dividers—See Compasses.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Stube Tapers, Stube list July a                                                                                                                                                                                                |
| Trace, Wagon and Fancy Chains,<br>list April, '9850&10@60%<br>Jack Chain, list July 10, '93:                                                                                                                                  | Coopers' Toole-                                                                                            | Dog Collars—See Collars, Dog. Door Checks—                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Fixtures, Crindstone-                                                                                                                                                                                                          |
| Iron60@50d:10%                                                                                                                                                                                                                | Cord- Sasii-                                                                                               | See Checks, Door, Door Springs-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Net Prices:<br>Inch 15 17 19 21 24<br>Per doz. \$2.90 3 10 3.30 3.80 4.80                                                                                                                                                      |
| Brass                                                                                                                                                                                                                         | Braided White Common Head to                                                                               | See Springs Door                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Stower's Giant Grind stone Hanger                                                                                                                                                                                              |
| Gal. Pump Chain                                                                                                                                                                                                               | Cable Laid Italianlb. A, 18c; B, 18c<br>Common India                                                       | Drawers, Money-<br>Tucker', Pat. Alar n Till No. 1, # doz.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | # doz 86.00                                                                                                                                                                                                                    |
|                                                                                                                                                                                                                               | Patent Russia th 18 Care                                                                                   | Tucker', Pat. Alar'n Till No. 1, \$ 407,<br>\$18; No. 2, \$15; No. 3, \$14; No. 4, \$18.<br>Drawing Knives—                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Reading Hardware Co                                                                                                                                                                                                            |
| Breast                                                                                                                                                                                                                        | Cuttle Lata Fussia                                                                                         | See Knives, Drawing.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Fluting Machines-                                                                                                                                                                                                              |
| Stallion S5&24                                                                                                                                                                                                                | Patent India                                                                                               | Drills and Drill Stocks-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | See Machines, Fluting. Fodder Squeezers-                                                                                                                                                                                       |
| Oneida Communi y :<br>Eureka Coli and Halter60@40&5%<br>Niaz era Coli and Halter :00@60&5%<br>Niazaca Cow Fles. :46&5@45&10&5%                                                                                                | Massachusette Dab                                                                                          | \$1.75@\$2.00 Blacksmiths' Self-feedingeach                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | See Squeezers, Fodder.                                                                                                                                                                                                         |
| Miaga: a Cow Fies                                                                                                                                                                                                             | Har nony Cable Laid Italian B B 186                                                                        | Bench Drills, Stearns',                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Forks—<br>Aug. 1, 1899, list.                                                                                                                                                                                                  |
| Am Cow Ties                                                                                                                                                                                                                   | Crown, Solid Braided White P h 18¢                                                                         | Breast, P., S. & W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Hay, 2 tine                                                                                                                                                                                                                    |
| Chalk-(From Jobbers.)                                                                                                                                                                                                         | Cable Laid Italian16¢                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                |
| Carpenters', Bluegro. 45c<br>Carpenters', Redgro. 35c<br>Carpenters', Whitegro. 30c                                                                                                                                           |                                                                                                            | Batchet, Parker's     405       Ratchet, Weaton's     206,253       Ratchet, Whitney's, P. S. & w. 40&103       Whitney's Hand Drill, No. 1, \$10.00;       Adjustable, No. 10, \$12.00     33365                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                |
| See also Crayons.                                                                                                                                                                                                             | Phoenix, White                                                                                             | Adjustable, No. 10, \$12.00381/46                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                |
| Chalk Lines-See Lines.<br>Checks, Door-                                                                                                                                                                                       | Braided, Drab Cotton P n 32'66                                                                             | Twist Drills—<br>Standard List 69@60&10%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                |
| Bardsley's40&102                                                                                                                                                                                                              | braided, White Cotton, Spot. # 1 28%                                                                       | Drill Bits or Bit Stock                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                |
| Columbia                                                                                                                                                                                                                      | A quality, Drab, 40¢. 15g A quality, White, 85¢. 15g B quality, White, 85¢. 15g B quality, White, 80¢. 15g | Drill Chucks—See Chucks.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Columbia, Spading 70g<br>Columbia, Spading 70g<br>Hawkeye Wood Bartey 4 tine \$\phi\$ dox<br>\$5.00; 6 tine, \$6.00.<br>W. & C. P. ta. D gaser 808 2015 125                                                                    |
| Socket Framing and Firmer                                                                                                                                                                                                     |                                                                                                            | Dripping Pans—<br>See Pans, Dripping.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | \$5.00; 6 tine, \$6.00.<br>W. & C. P 'a v. D gaser                                                                                                                                                                             |
| Buck Bros. 30c                                                                                                                                                                                                                | Lipen, 57/46 155                                                                                           | Drivers, Screw-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Jacks M. Sed Barrey 70&10&254                                                                                                                                                                                                  |
| Swan's                                                                                                                                                                                                                        | Braided or Twisted 80 £ 10@ 80 £ 17                                                                        | Balsey's Screw Holder and Driver, \$\Phi\$ doz. 236-inch, \$6; 4-in., \$7.30 6-in., \$9.40% Buck Bros.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Dakota H-ade                                                                                                                                                                                                                   |
| Tanged—<br>Tanged Firmers40&5@40&10%                                                                                                                                                                                          | See Knives, Corn.                                                                                          | Buck Bros. Screw Driver Pite 971/g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | % & C F vort Wond Briey 4 tine,<br>% doz., \$5.00; 5 tine, \$6.00<br>PlatedSee Spoons.                                                                                                                                         |
| Buck Bros                                                                                                                                                                                                                     | Corn Planters—<br>See Planters, Corn—                                                                      | Douglass Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Frames-<br>Saw-                                                                                                                                                                                                                |
| Cold-                                                                                                                                                                                                                         | Little -iant                                                                                               | Goodell's Automatic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Red, Polished and Varnished. doz.                                                                                                                                                                                              |
| Cold Chisels, good quality.lb. 14@16c<br>Cold Chisels, fair qualitylb. 12c<br>Cold Chisels, ordinarylb. 8@9c                                                                                                                  | Turner & Seymour Mfg. Co50% Cradles— Grain                                                                 | Mayhew's Monarch 45910¢                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Whitedoz. 75@ 80c                                                                                                                                                                                                              |
| Chucks-                                                                                                                                                                                                                       | White dound Crayons gross5@6c                                                                              | Nos. 1,50,55 and 60.50&10@50&10&10%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                |
| Reach Pat., each \$8.00                                                                                                                                                                                                       | tory.                                                                                                      | Nos. 1,50,35 and 60.50&10@50&10&10&10%<br>Nos. 20 and 4 \                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | See Screens. Freezers, Ice Cream-                                                                                                                                                                                              |
| Drill Chucks, Patent and Standard 30%<br>Drill Chucks, New Model                                                                                                                                                              | D. M. Steward Mfg. Co.                                                                                     | No 64 Varnished Handles60&10%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Q18 3 3 4 6 8 10                                                                                                                                                                                                               |
| Independent Lathe Chucks40% Improved Planer Chucks20% Universal Lathe Chucks40%                                                                                                                                               | Soapstone Pencils, round, flat or squaregr.81.50                                                           | No. 8670&10%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Best. \$1.40 1 60 1.85 2.30 3.00 3.30                                                                                                                                                                                          |
| Face Plate Jaws                                                                                                                                                                                                               | Railroad Crayons (compo.                                                                                   | No. 40                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Fruit and Jelly Presses                                                                                                                                                                                                        |
| Union Mfg. Co.:                                                                                                                                                                                                               | Creamery Palls-See Pails.                                                                                  | Eave Trough, Calvanized                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | See Presses. Fruit and Jelly.  Fry Pans-See Pans, Fry.                                                                                                                                                                         |
| Czar Drill                                                                                                                                                                                                                    | Creamery.                                                                                                  | Territory. Cornoca. A. C. A.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Fuse-                                                                                                                                                                                                                          |
| Union Drill                                                                                                                                                                                                                   | Fort Madison, Light 28 doz \$6.50                                                                          | Southern75&12% 75&5%<br>S. Western75&2% 75%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Hemp Fuse\$2.60                                                                                                                                                                                                                |
| Face Plate Jaws                                                                                                                                                                                                               | Crow Bars -See Bars, Crow.                                                                                 | Terms, 2% for cash.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Cotton Fuse                                                                                                                                                                                                                    |
| Clamps— Adjustable, Hammers'                                                                                                                                                                                                  | Victor Garden                                                                                              | Egg Beaters-See Beaters, Egg.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Triple Taned Fuse 5.70                                                                                                                                                                                                         |
| Carriage Makers', P., S. & W. Co., 40&10;<br>Carriage Makers', Sargent's                                                                                                                                                      | Meat-                                                                                                      | Egg Openers-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Gates, Molasses and O                                                                                                                                                                                                          |
| Beary, Parallel                                                                                                                                                                                                               | Meat—                                                                                                      | Sas Openers, Egg. Emery, Turkish-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Stebbin's                                                                                                                                                                                                                      |
| Co                                                                                                                                                                                                                            | Each\$5 \$7 \$10 \$25 \$50 \$60                                                                            | 4 to 46 54 to 150 Flour-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 55.4°11.60.55.40.100 %                                                                                                                                                                                                         |
| Star Socket, All Steel doz. \$4.00 ne<br>Star Shank, All Steel dos. \$3.75 ne                                                                                                                                                 | Connectiout: 8 10 12                                                                                       | Kegslb. l/4c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Barrett's Comb. Roller Gauge<br>2 02. 82.758 Stanley R. & L. Co.'s Butt & Rabbe                                                                                                                                                |
|                                                                                                                                                                                                                               |                                                                                                            | 10-lb cans, 10<br>in case 6 c 614c 514c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Stanley R. & L. Co.'s Butt & Rabbe. Gauge                                                                                                                                                                                      |
| Cleavers, Butchers'- Poster Bros                                                                                                                                                                                              |                                                                                                            | 10-lb.cans,less<br>than 1010 c 10 c 8 c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Gauge                                                                                                                                                                                                                          |
| THE STREET STATE STATE OF STREET                                                                                                                                                                                              | \$24.00 \$11.00 \$10.00 \$30.00                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 100000000000000000000000000000000000000                                                                                                                                                                                        |

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| Allowance, except in Eastern dis-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Nickel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Nickel. # 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Co.:  Ideal, No. 16, Detachable, @ gr                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | S-ply extra et a 2 to c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| List A, Bottles or Cans, with Brush.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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Co.: No. 2, Standard, \$1860&10% No. 1, Special. \$1360&10% Stowell Mrg. and Foundry Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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| List C. 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| Glue Pots-See Pots, Glue.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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| Common Gradegro, \$5.00@6.00<br>Dixon's Everlasting10-b palls, aa. 85¢<br>Dixou's Everlasting, in bxs & doz. 1 b<br>\$1.20; 2 b \$2.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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| Snow Flake                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             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| 1 qt. ca.s, per doz. \$2.00; 3 qt.,<br>\$3.20; 1 at. cans p-r doz. \$6 00;<br>3 gal, \$16 00; 5 gal \$24.00.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Zenith for Wood Track50&10%<br>Taylor & Boggis Foundry Co.:                                                                                                                                                                                                                                                                                                                                                                                     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| Grindstone Fixtures—<br>See Fixtures, Grindstone.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Raifroad                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Cor. Heavy Strap 793<br>Cor. Ex. Heavy T 66%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Jack Screws-See Screws.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Gun Powder-See Powder.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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Co., Steel45&95                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Hack Saws-See Saws.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | C. J. Roller Bearing60&10%<br>Cycle Ball Bearing50%<br>L. T. Roller Bearing60&10%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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to 13 inlb 3 @3\4c and Strap. 23 to 36 inlb 2\2024@3 c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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| Hafts, Awl-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | L. T. Holler Bearing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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| Peg Patent, Leather Top. \$4.90@5.25<br>Peg Patent, Plain Top \$3.50@3.75                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | O. K. Roller Bearing60&10&5%<br>Prindle Improved60&10%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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| Sewing, Brass Ferrule\$1 50@1.60<br>Saddlers', Brass Ferrule\$1.35@1.45                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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| Peu, Common                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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| Halters and Ties-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Wilcox Tandem Roller Bearing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Grub. list Feb. 23, 1899 65@65&104<br>D. & H. Scovil                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Knives-<br>Butcher, Shoe, &c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Covert afg. 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Butcher, &c 30%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Covert's Saddlery Works', 96 list, Wab.,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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| Constitution dellars Wester V and 00&10%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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| Covert's Saudiery Works, Leatnerook 10%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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| Covert's Saudiery Works, Leatnerook 10%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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| Covert's Saddlery Works, June 60e5<br>Covert's Saddlery Works, Sisal 605<br>Covert's Saddlery Works, Sisal 605<br>Covert's Saddlery Works, Manila .60e55<br>Covert's Saddlery Works, Cotton 705<br>Hammers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Harness Menders—See  Harness Snaps—See Snaps.  Hasps— Mekinney's Perfect Hasp 10 dos 10 & 10.0 to 10.0 | Street and Mortar 7567%62% Cotton 70&10&10&10&5&2% Planters 70&10&10&0.5&2% Weeding 70% Note.—Manufacturers and jobbers use adversity of lats, and often sell at net                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Corn-<br>Ft. Madison Cut-Easy, % dos\$3.95<br>Withingto_Acme, % doz., \$2.65; Dent,<br>\$2.75; Adj. Serrated, \$2.20; Ser-<br>rated, \$2.10; Yankee No. 1, \$1.50;<br>Yankee No. 2, \$1.15.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| tovert's Saddlery Works, Jute                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Harness Menders—See Harness Snaps—See Snaps. Hasps— McKinuey's Perfect Hasp © down 10 & 10 or 10 wrought Hasps. Staples, &c.—See Wrought Goods. Hatchets—                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Street and Mortar 7567%62% Cotton 70&10&10&10&5&2% Planters 70&10&10&0.5&2% Weeding 70% Note.—Manufacturers and jobbers use adversity of lats, and often sell at net                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | COrn— Ft. 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| Covert's Saddlery Works, Jute                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Harness Menders—See  Harness Snaps—See Snaps.  Hasps— McKinery's Perfect Hasp 10 dos 10&10 Wrought Hasps, Staples, &c.—See Wrought Goods.  Hatchets— Best Brands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Street and Mortar                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | COrn— Ft. Madison Cut-Easy, # dos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Covert's Saddiery Works, Jute                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Harness Menders—See Harness Snaps—See Snaps. Hasps— McKinery's Perfect Hasp 10 dos 10&10 Wrought Hasps. Staples, &c.—See Wrought Goods. Hatchets— Best Brands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Street and Mortar                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | COrn— Ft. Madison Cut-Easy, \$\pi\$ dos\$3.95 Withingto. Acme, \$\pi\$ dox \$2.65: Dent, \$2.75: Adj. Serrated, \$2.20: Serrated, \$2.10: Yankee No. 1, \$1.50; Yankee No. 2, \$1.15.  Drawing— Standard List                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Covert's Saddiery Works, Jute                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Harness Menders—See Harness Snaps—See Snaps. Hasps— McKinery's Perfect Hasp 10 dos 10&10 Wrought Hasps. Staples, &c.—See Wrought Goods. Hatchets— Best Brands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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| Covert's Saddlery Works, Jute. 60e85 Covert's Saddlery Works, Jute. 60e85 Covert's Saddlery Works, Sisal. 60e8 Covert's Saddlery Works, Cotton. 70e8 Hammers— Handled Hammers— Beller's Machinists' 50@50æ56 Beller's Farriers 50@50æ56 Beller's Farriers 60@50æ56 Beller's Farriers 60@50æ56 Fig. 73 60æ10e8 Fees. Stow & Wilcoz 40e40æ56 Fees. Stow & Wilcoz 40e40æ56                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Harness Menders—See  Harness Snaps—See Menders  Hasps— Mekinney's Perfect Hasp  dos 10&10  Wrought Hasps, Staples, &c.—See  Wrought Goods.  Hatchets— Best Brands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Street and Mortar 75&7% 62% Cotton 70&10&10&10&5&2% Planters' 70&10&10&5&2% Planters' 70&10&10&5&2% Weeding 75&3% Note.—Manufacturers and jobbers use a diversity of lats, and often sell at net prices. Ft. Madison Crucible Garden Hoe. Ft. Madison Crescent Cultivator Hoe. per dos 75&10&25 Ft. Madison Mattock Hoes: Regular Weight # doz. \$4.50 Junior Size # doz. \$4.00 Ft. Madison Sprouting Hoe, # doz. \$4.50 St. Madison Dixie Tobacco Hoe 75&206                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Corn— Ft. Madison Cut-Easy, \$\pi\$ dos\$3.95 Withingto_Acme, \$\pi\$ dos\$2.65; Dent, \$\frac{2}{3}.75; Adj. Serrated, \$\frac{2}{3}.20; Serrated, \$\frac{2}{3}.15; Serrated, \$\frac{2}{3}.15; Serrated, \$\frac{2}{3}.20; Serrated, \$\frac |
| Covert's Saddiery Works, Jule                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Harness Menders—See  Harness Snaps—See Snaps.  Hasps— McKineey's Perfect Hasp 10 dos 10&10 Wrought Hasps. Staples, &c.—See Wrought Goods.  Hatchets— Best Brands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Street and Mortar 75&7% 62% Cotton 70&10&10&10&5&2% Planters' 70&10&10&5&2% Planters' 70&10&10&5&2% Weeding 75&3% Note.—Manufacturers and jobbers use a diversity of lats, and often sell at net prices. Ft. Madison Crucible Garden Hoe. Ft. Madison Crescent Cultivator Hoe. per dos 75&10&25 Ft. Madison Mattock Hoes: Regular Weight # doz. \$4.50 Junior Size # doz. \$4.00 Ft. Madison Sprouting Hoe, # doz. \$4.50 St. Madison Dixie Tobacco Hoe 75&206                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Corn— Ft. Madison Cut-Easy, \$\pi\$ dos\$3.95 Withingto_Acme, \$\pi\$ dos\$2.65; Dent, \$\frac{2}{3}.75; Adj. Serrated, \$\frac{2}{3}.20; Serrated, \$\frac{2}{3}.15; Serrated, \$\frac{2}{3}.15; Serrated, \$\frac{2}{3}.20; Serrated, \$\frac |
| Covert's Saddiery Works, Jute                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Harness Menders—See  Harness Snaps—See Snaps.  Hasps— McKinery's Perfect Hasp 10 dos 10&10 Wrought Hasps. Staples, &c.—See Wrought Goods.  Hatchets— Best Brands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Street and Mortar                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | COrn— Ft. Madison Cut-Easy, # dos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Covert's Saddiery Works, Jute                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Harness Menders—See Harness Snaps—See Snaps. Hasps— McKinney's Perfect Hasp & dos 10&10 Wrought Hasps, Staples, &c.—See Wrought Goods. Hatchets— Best Brands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Street and Mortar 756474628 Cotton 7061061065628 Planters 7065036 Weeding 756 Note. Mansfacturers and jobbers use a diversity of lists, and often sell at net prices. Ft. Madison Crucible Garden Hoe. 756403 Ft. Madison Crescent Cultivator Hoe. per dos. 7564038 Ft. Madison Mattock Hoes: Regular Weight. 9 doz. 84.69 Junior Size 9 doz. 84.69 Ft. Madison Sprouting Hoe, 9 doz. 84.69 Ft. Madison Dixie Tobacco Hoe. 7564038 Warren Hoe. 600 W. & C. Iv. nhop. 756403 Warren Hoe. 756410 W. & C. Lightning Snum: H. H. 9, d. 2. Hog Rings and Ringors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | COrn— Ft. Madison Cut-Easy, # dos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Covert's Saddiery Works, Jeaknerook 195 Covert's Saddiery Works, Siels                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Harness Menders—See Harness Snaps—See Snaps. Hasps— McKinney's Perfect Hasp & dos 10&10 Wrought Hasps, Staples, &c.—See Wrought Goods. Hatchets— Best Brands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Street and Mortar 756714628 Cotton 7061061065628 Planters 706206 Planters 706206 Note,—Manisfacturers and jobbers use a diversity of lists, and often sell at net prices. Ft. Madison Crucible Garden Hoe. 75825 Ft. Madison Crescent Cultivator Hoe. per dos. 75810828 Ft. Madison Mattock Hoes: Regular Weight. 8 doz. 84.50 Junior Size 8 doz. 84.50 Ft. Madison Dixis Tobacce Hoe. 758209 Ft. Madison Dixis Tobacce Hoe. 758209 Ft. Madison Dixis Tobacce Hoe. 758209 Warren Hoe. 758209 Warren Hoe. 758209 Warren Hoe. 758209 Warren Hoe. 758209 Wa & C. Iv nho- 758209 He B. Chulvator Hoe. 758209 Warren Hoe. 758209                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | COrn— Ft. Madison Cut-Easy, ₱ dos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Covert's Saddiery Works, Jeaknerout 195 Covert's Saddiery Works, Sisal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Harness Menders—See Harness Snaps—See Snaps. Hasps— MeKinery's Perfect Hasp 12 dos 10&10 Wrought Hasps. Staples, &c.—See Wrought Goods. Hatchets— Best Brands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Street and Mortar                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Ft. Madison Cut-Easy, \$\pi\$ dos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Covert's Saddiery Works, Jute                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Harness Menders—See Harness Snaps—See Snaps. Hasps— Mekinery's Perfect Hasp 12 dos 10&10 Wrought Hasps, Staples, &c.—See Wrought Goods. Hatchets— Best Brands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Street and Mortar                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | COrn— Ft. Madison Cut-Easy, # dos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Covert's Saddiery Works, Jute0025 Covert's Saddiery Works, Sisal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Harness Menders—See Harness Snaps—See Snaps. Hasps— Mekinery's Perfect Hasp 12 dos 10&10 Wrought Hasps. Staples, &c.—See Wrought Goods. Hatchets— Best Brands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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| Covert's Saddiery Works, Jute                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Harness Menders—See Harness Snaps—See Snaps. 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Hatchets— Best Brands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Street and Mortar                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Ft. Madison Cut-Easy, \$\pi\$ dos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Covert's Saddiery Works, Jute                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Harness Menders—See Harness Snaps—See Snaps. Hasps— McKinery's Perfect Hasp 10 dos 10 & 10 & 10 & 10 & 10 & 10 & 10 & 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Street and Mortar 756716262 Cotton 7061061065628 Planters 7065036 Weeding 756716626 Note. Mansfacturers and jobbers use a diversity of lists, and often sell at net prices. Ft. Madison Crucible Garden Hoe. 756208 Ft. Madison Crescent Cultivator Hoe. per dos. 756208 Ft. Madison Mattock Hoes: Regular Weight 9 dos. 84.69 Junior Size 9 dos. 84.69 Ft. Madison Sprouting Hoe, 9 dos. 84.69 Ft. Madison Dixie Tobacco Hoe. 756208 Kretsinger's Cut Easy, per dos. 756208 Warren Hoe. 600 W. & C. Iv. nho. 756208 Warren Hoe. 756210 Arme Weedin 756210 Arme W | Ft. Madison Cut-Easy, \$\pi\$ dos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Covert's Saddiery Works, Jeannerout 195 Covert's Saddiery Works, Sisal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Harness Menders—See  Harness Snaps—See Snaps.  Hasps— Mekinery's Perfect Hasp 10 dos 10 & 10 & 10 & 10 & 10 & 10 & 10 & 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Street and Mortar                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Ft. Madison Cut-Easy, \$\pi\$ dos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Covert's Saddiery Works, Juste 0028 Covert's Saddiery Works, Sisal 008 Covert's Saddiery Works, Cotton 708 Hammers 100 Hammers 1 | Harness Menders—See Harness Snaps—See Snaps. Hasps— Mekinery's Perfect Hasp 10 dos 10 & 10 & 10 & 10 & 10 & 10 & 10 & 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Street and Mortar                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Ft. Madison Cut-Easy, # dos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Covert's Saddiery Works, Jeannerout 15 Covert's Saddiery Works, Sisal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Harness Menders—See Harness Snaps—See Snaps. Hasps— Mekinery's Perfect Hasp 10 dos 10 & 10 & 10 & 10 & 10 & 10 & 10 & 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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| Covert's Saddiery Works, Steel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Harness Menders—See  Harness Snaps—See Snaps— Hasps— Mekinney's Perfect Hasp in dos 10&10 Wrought Hasps. Staples, &c.—See Wrought Goods.  Hatchets— Best Brands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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| Covert's Saddiery Works, Steel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Harness Menders—See  Harness Snaps—See Snaps.  Hasps— Mekinney's Perfect Hasp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Street and Mortar                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Ft. Madison Cut-Easy, \$\pi\$ dos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Covert's Saddiery Works, Juste                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Harness Menders—See  Harness Snaps—See Snaps.  Hasps— Mekinery's Perfect Hasp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Street and Mortar                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Ft. Madison Cut-Easy, \$\pi\$ dos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Covert's Saddiery Works, Steakner-002105 Covert's Saddiery Works, Sisal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Harness Menders—See  Harness Snaps—See Snaps.  Hasps—  Mekineey's Perfect Hasp  Mekineey's Perfect Hasp  Wrought Hasps. Staples, &c.—See  Wrought Goods.  Hatchets—  Best Brands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Street and Mortar                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Ft. Madison Cut-Easy, \$\pi\$ dos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Covert's Saddiery Works, Steel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Harness Menders—See  Harness Snaps—See Snaps— Hasps— Mekinney's Perfect Hasp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Street and Mortar 70c10c10s Cotton 70c10c10s Cotton 70c10c10c5c2s Planters 70c5036 Weeding 75c75c75c2s Weeding 75c75c75c2s Weeding 75c75c75c2s Weeding 75c75c75c2s Note.—Mansfacturers and jobbers use a diversity of lists, and often sell at net prices. Ft. Madison Crucible Garden Hoe. Ft. Madison Crescent Cultivator Hoe. per dos. 75c20s Ft. Madison Mattock Hoes: Regular Weight 9 dos. 84.05 Ft. Madison Sprouting Hoe, 9 dos. 84.05 Ft. Madison Dixie Tobacco Hoe. Ft. | Ft. Madison Cut-Easy, \$\pi\$ dos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Covert's Saddiery Works, Steamer-002105 Covert's Saddiery Works, Sisal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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| Covert's Saddiery Works, Steel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Harness Menders—See  Harness Snaps—See Snaps.  Hasps— Mekinery's Perfect Hasp  Mexinery's Perfect Hasp  Wrought Hasps. Staples, &c.—See  Wrought Goods.  Hatchets— Best Brands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Street and Mortar                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Ft. Madison Cut-Easy, \$\pi\$ dos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Covert's Saddiery Works, Steel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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| Covert's Saddiery Works, Steather-002105 Covert's Saddiery Works, Sisal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Harness Menders—See  Harness Snaps—See Snaps.  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| Leaders, Cattle-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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| Smalldox. 45c; large, 55c<br>Covert Mfg. 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                                                                                                  | Nails-<br>Cut and Wire, See Trade Report.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | #0.60@0.65<br>Heavy wt . extra quality #0.95@1.05                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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                                                                                                                         | Heavy wt., extra quality.\$0.95@1.05 Medium Grades Water Proof                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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| See Squeezers, Lemon.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | List July 20, 189985@85&10%<br>Hungarian, Finishing, Upholster-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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Cast Steel \cdot 80&10&10g 10g 10g P., S. & W. Tinners' Cutting Nippers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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C25¢ 23¢ 22¢ 21¢ 21¢<br>40&5\$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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      | Utica Drop Forge & Tool Co.:<br>Pliers and Nippers. all kinds405                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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| Payson's:<br>Solid Grip Nos. 643 and 644, \$\P\$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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                                                                                                                         | Advance. \$4.50 Baldwin. \$4.0x. \$5.00 Bonanza. each \$5.00 Dandy. each \$7.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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                                                                                                                         | Fureka, 1898 each \$16.00 Family Bay State                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Buffalo Steam Egg Poachers, \$\psi\$ doz., No. 1, \$7.20; No. 2, \$11.00 No. 3, \$11.00; No. 4,\$14.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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| No. 1, \$6.50; No. 2, \$7.00; No. 3, \$7.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Por. 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                                                                                                                                             | Nippers, See Pliers and Nippers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Donaty each \$7.50  Eureka, 1898 each \$1.50  Eureka, 1898 each \$16.00  Family Bay State \$4.00  Hudson's Li tle Star \$4.00  Hudson's Ro king Table \$4.00  August \$4.00  Hudson's Ro king Table \$4.00  New Lightning \$4.00  New Lightning \$4.00  Reading 72 \$4.00  Reading 72 \$4.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Bulk and 1 lb. papers. lb. 111/2@12 c<br>4-lb. paperslb. 12 @19/4c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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| Locks, &c. Cabinet—<br>Cabinet Locks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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| Door Locks, Latches, &c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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| [Net prices are very often made on                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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Madison, Western                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| these goods.] Reading Hardware Co40%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Cold Punched Mfrs. or U. 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Standard. list.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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| R. & E. Mfg. Co       50%         Sargent & Co       40@40&10%         Slaymaker-Barry Co       30@35%         Slaymaker-Barry Co       30.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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                                                                                                          | Paris Green-<br>Arsenic, kegs or caskslb. 121/4@15 c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Manufacturers' Lists25@25&56<br>Tower's255                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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| Slaymaker-Barry Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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                                                                                                                         | Kegs, 100 to 175 lblb. 13 @13½c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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| Elevator-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Hexagon, C. T. & R k.70@k.80c<br>Hot Pressed:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Paper boxes, 2 to 5 lblb. 14 @144c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | \$3.00; No. 2 (1 qt.), \$9.72                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Padlocks-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Mfrs., U. S. or Nar. Gauge Stan'd.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Kegs, 100 to 175 lb. lb. 18 @15% Kits, 14, 28, 56 lb lb. 14 @14% C Paper boxes, 2 to 5 lb. lb. 14 @14% C Paper boxes, 1 lb lb. 14% @15 c Paper boxes, ½ lb lb. 15% @16 c Paper boxes, ½ lb lb. 15% @16 c Paper boxes, ¼ lb lb. 16% @17 c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Prestoline Liquid, No. 1 (½ pt.), ¥ doz.<br>\$3.00; No. 2 (1 qt.), \$0.73                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Wrought Iron list Dec 3, '97.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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                                                                                                                         | Paper boxes, 1/4 lb lb. 161/2@17 c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | doz. \$1.25; 1 b boxes, \$1 doz. \$2.25.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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| 70@70&10% Dog Collar, S. B. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Note.—Tapped Nuts are now 2-10c. higher than above.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Picks and Mattocks—<br>List Feb. 25, 1899                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | W. S. Liquid, 8 oz. cans, # doz. \$1.25;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| B. & E. Mfg. Co. Wrt. Steel and Brass. 50%<br>B. B. & Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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                                                                                                                      | Barkeepers' Friend Metal Polish, \$\psi\$ dos.<br>\$1.75; \$\pi\$ gr. \$18.00.<br>Wynn's White Slik, \( \frac{1}{2} \) pt.cans, \$\pi\$ dos.\$1.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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| Sash, &c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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                                                                                                                         | See Irons, Pinking.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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| Oefinger's Automatic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Plumbers' Spun Navy3 c<br>In carload lots 4c lb. off f.o.b. 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| Cefinger's Automatic. 50% Payson's Perfect. 70% Payson's Signal (ne # list). 75%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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| Upright. 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| Improved No. 3\$4.25 No. 1 \$5.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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| Improved No. 3\$4.25 No. 1 \$5.00<br>Improved No. 4 8.75 No. 2 8.38<br>Improved No. 5 2.75                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Oliers— Brass and Copper40&10@50%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Tubes, &c.—<br>Carloads to Consumers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Wynn's Black Silk, 5 b palleach 70g<br>Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00<br>Wynn's Black Silk, 5 oz. box, \$\pi\$ doz.\$0.75<br>Wynn's Black Silk, 8 oz. liq., \$\pi\$ doz.\$1.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             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| Improved No. 3\$4.25 No. \$5.00 Improved No. 4 8.75 No. 2 3.38 Improved No. 5 2.75 Jennings' 2.50 3.00 Millers' Falls 5.75 Reall's, Rice's Pat. 2.50 2.75                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Ollers—  Brass and Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Tubes, &c.— Carloads to Consumers. Merchant Pipe.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Wynn's Black Silk, 5 % palleach 70s<br>Wynn's Black Silk, ½ % box, \$ doz, \$1.00<br>Wynn's Black Silk, 5 oz, box, \$ \$doz, \$0.75<br>Wynn's Black Silk, 8 oz, 11q., \$ doz,\$1.00<br>Poppers, Corn—                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Improved No. 3\$4.25 No. 1 \$5.00 Improved No. 4 8.75 No. 2 3.38 Improved No. 5 2.75 Sendings 5.75 Millers Falls 5.75 Sending Rice's Pat. 8.50 Evan's, No. 500. 5.10 No. 200 6.45                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Ollers—  Brass and Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Tubes, &c.— Carloads to Consumers. Merchant Pipe. 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| Improved No. 3\$4.25 No. 1 \$5.00 Improved No. 4 8.75 No. \$ 3.38 Improved No. 5 2.75 Senings 2.50 Shell's Rice's Fat. 2.50 Shell's Rice's Fat. 2.50 Swan's No. 500. 5.10 No. 200 6.45 Hoisting—                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Ollers—  Brass and Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Tubes, &c.— Carloads to Consumers.  Merchant Pipe.  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| Improved No. 3\$4.25 No. 1 \$5.00 Improved No. 4 3.75 No. 2 3.88 Improved No. 5 2.75 Jennings' 2.50 3.00 Millers' Falls 5.75 Snell's, Rice's Pat. 3.50 2.75 Ewan's, No. 500. 5.10 No. 200 6.45 Hoisting—  Moore's Anti-Friction Differential Pul-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Oliers—  Brass and Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Tubes, & c.— Carloads to Consumers.  Merchant Pipe.  Black. 14 to 14 inch. 638 54 to 8 inch. 638 558 5 to 12 inch. 638 558 558 509 501 501 501 501 501 501 501 501 501 501                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Wynn's Black Silk, 5 b paileach 70s   Wynn's Black Silk, ½ b box, # doz. \$1.00   Wynn's Black Silk, 5 oz. box, # doz. \$0.00   Wynn's Black Silk, 8 oz. liq., # doz. \$0.00   Poppers, Corn—    Round or Square: 1 qt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Improved No. 3\$4.25 No. 1 \$5.00 Improved No. 4 3.75 No. 2 3.88 Improved No. 5 2.75 Jennings' 2.50 3.00 Millers' Falls 5.75 Bnell's, Rice's Pat. 2.50 2.75 Ewan's, No. 500. 5.10 No. 200 6.45 Hoisting— Moore's Anti-Friction Differential Pulley Block 305 Moore's Hand Hoist, with Lock Brake.205 Washing— Washing—                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Oliers—  Brass and Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Tubes, &c.— Carloads to Consumers.  Merchant Pipe. Galvanized. 14 to 14 inch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Wynn's Black Silk, 5 b pailanch 70s Wynn's Black Silk, ½ b box \$ \$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$ doz. \$1.00 Poppers, Corn— Round or Square:  1 qt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Improved No. 3\$4.25 No. 1 \$5.00 Improved No. 4 3.75 No. 2 3.88 Improved No. 5 2.75 Jennings' 2.50 3.00 Millers' Falls 5.75 Bnell's, Rice's Pat. 2.50 2.75 Ewan's, No. 500. 5.10 No. 200 6.45 Hoisting— Moore's Anti-Friction Differential Pulley Block 305 Moore's Hand Hoist, with Lock Brake.205 Washing— Washing—                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Oliers—  Brass and Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Tubes, & c.— Carloads to Consumers.  Merchant Pipe.  Black. 14 to 14 inch. 638 34 to 8 inch. 638 505 50 to 12 inch. 508 Boiler Tubes. 15 to 14 inch. 508 22 fest and over. 15 to 14 inch. 508 25 fest 22 fest and over. 15 114 inch. 508 25 fest 25 fe  | Wynn's Black Silk, 5 b pailench 70s Wynn's Black Silk, ½ b box ₱ doz. 81.00 Wynn's Black Silk, 5 oz. box, ₱ doz. \$0.00 Wynn's Black Silk, 8 oz. liq., ₱ doz. \$1.00  Poppers, Corn— Round or Square:  1 qt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Improved No. 3\$4.25 No. 1 \$5.00 Improved No. 4 3.75 No. 2 3.88 Improved No. 5 2.75 Jennings' 2.50 3.00 Millers' Falls 5.75 Bnell's, Rice's Pat. 2.50 2.75 Ewan's, No. 500. 5.10 No. 200 6.45 Hoisting— Moore's Anti-Friction Differential Pulley Block 305 Moore's Hand Hoist, with Lock Brake.205 Washing— Washing—                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Ollers—  Brass and Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Tubes, & c.— Carloads to Consumers.  Merchant Pipe.  Black. 14 to 14 inch. 638 34 to 8 inch. 638 505 50 to 12 inch. 508 Boiler Tubes. 15 to 14 inch. 508 22 fest and over. 15 to 14 inch. 508 25 fest 22 fest and over. 15 114 inch. 508 25 fest 25 fe  | Wynn's Black Silk, 5 b pailsnch 70s Wynn's Black Silk, 5 b pailsnch 70s Wynn's Black Silk, 5 oz, box, \$\pi\$ doz, \$1.00 Wynn's Black Silk, 8 oz, liq., \$\pi\$ doz, \$1.00  Poppers, Corn— Round or Square:  1 qt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Improved No. 3\$4.25 No. 1 \$5.00 Improved No. 4 3.75 No. 2 3.88 Improved No. 5 2.75 Jennings' 2.50 3.00 Millers' Falls 5.75 Bnell's, Rice's Pat. 2.50 2.75 Ewan's, No. 500. 5.10 No. 200 6.45 Hoisting— Moore's Anti-Friction Differential Pulley Block 305 Moore's Hand Hoist, with Lock Brake.205 Washing— Washing—                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Ollers— Brass and Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Tubes, &c.— Carloads to Consumers.  Merchant Pipe.  Galvanized.  14 to 34 inch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Wynn's Black Silk, 5 b pailench 70s Wynn's Black Silk, ½ b box ₱ doz. 81.00 Wynn's Black Silk, 5 oz. box, ₱ doz. \$0.00 Wynn's Black Silk, 8 oz. liq., ₱ doz. \$1.00  Poppers, Corn— Round or Square:  1 qt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Improved No. 3\$4.25 No. 1 \$5.00 Improved No. 4 8.75 No. 2 5.88 Improved No. 5 2.75 Jennings' 2.50 3.00 Millers' Falls 5 5.75 Smell's, Rice's Pat. 2.50 2.75 Ewan's, No. 500. 5.10 No. 200 6.45 Hoisting—  Moore's Anti-Friction Differential Pulley Block 80% Moore's Hand Holst, with Lock Brake, 205 Washing—  Wayne American, 40s. \$28.00 Western Star, No. 2, \$28.00 Western Star, No. 3, \$30.00 St. Louis, No. 41, \$40s. 80.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Ollers—  Brass and Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Tubes, & c.— Carloads to Consumers.  Merchant Pipe.  Black, nized, 50% 34 to 34 inch. 63% 55% 55 to 12 inch. 63% Boiler Tubes.  Steel. \$2 fest and over. 1 to 1½ inch. 50% 134 to 2¼ inch. 42% 2½ inch. 50% 150 13 inch. 50% 150 13 inch. 50% 150 13 inch. 50% 150 13 inch. 50% 150 15 | Wynn's Black Silk, 5 b pailench 70g Wynn's Black Silk, 5 b pailench 70g Wynn's Black Silk, 5 oz, box, \$\pi\$ doz, \$1.00 Wynn's Black Silk, 5 oz, box, \$\pi\$ doz, \$1.00 Poppers, Corn— Round or Square:  1 qt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Improved No. 3 \$4.25 No. 1 \$5.00 Improved No. 4 8.75 No. 2 3.38 Improved No. 5 2.75 Jennings 2.50 3.00 Millers Falls 5 5.75 Snell's, Rice's Pat. 2.50 8.75 Swan's, No. 500. 5.10 No. 200 6.45 Ewan's, No. 500. 5.10 No. 200 6.45 Washing—  Moore's Anti-Friction Differential Pulley Block 30% Moore's Hand Hoist, with Lock Brake. 20% Washing—  Wayne American, \$\psi\$ doz. \$28.00 Western Star, No. 2, \$\psi\$ doz. \$28.00 St. Louis, No. 41, \$\psi\$ doz. 60.00 St. Louis, No. 41, \$\psi\$ doz. 60.00 St. Louis, No. 41, \$\psi\$ doz. 60.00 St. Louis No. 40.00 St. Louis No. 40.00 St. Louis No. 41, \$\psi\$ doz. 60.00 St. Louis No. 40.00 St. Louis No. 41, \$\psi\$ doz. 60.00 S                      | Oliers—  Brass and Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Tubes, &c.— Carloads to Consumers.  Merchant Pipe.  Galvanized.  14 to 34 inch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Wynn's Black Silk, 5 b pailanch 70s Wynn's Black Silk, 5 b pailanch 70s Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Poppers, Corn—Round or Square:  1 qt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Improved No. 3 \$4.25 No. 1 \$5.00 Improved No. 4 \$75 No. 2 3.58 Improved No. 5 \$2.75 No. 2 3.58 Improved No. 5 \$2.75 Spenlings \$2.50                                                                                                                                                                                                                                                                                                                | Brass and Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Tubes, &c.— Carloads to Consumers.  Merchant Pipe.  Galvanized.  ½ to ½ inch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Wynn's Black Silk, 5 b pailanch 70s Wynn's Black Silk, 5 b pailanch 70s Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 8 oz. liq. \$\pi\$ doz. \$1.00 Poppers, Corn—Round or Square:  1 qt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Improved No. 3 \$4.25 No. 1 \$5.00 Improved No. 4 \$75 No. 2 3.58 Improved No. 5 \$2.75 No. 2 3.58 Improved No. 5 \$2.75 Spenlings \$2.50                                                                                                                                                                                                                                                                                                                | Dilers   Brass and Copper   100±100±50x Tin or Steel   600±1000±55x Zinc   600±1000±55x Zinc   600±1000±55x Zinc   600±1000±55x Zinc   600±100±55x Zinc   600±100±50x Zinc   600±10000000000000000000000000000000000 | Tubes, &c.— Carloads to Consumers.  Merchant Pipe.  Black, nized, 50% 34 to 34 inch. 63% 55% 55 to 13 inch. 63% Essel. 10 to 14 inch. 50% 154 inch. 50% 154 inch. 50% 154 inch. 50% 155% 150 13 inch. 50% 150 13 inch. 50% 150 15 inch. 50% 150 150 150 150 150 150 150 150 150 150                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Wynn's Black Silk, 5 b pailanch 70s Wynn's Black Silk, 5 b pailanch 70s Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Poppers, Corn—  Round or Square:  1 qt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Improved No. 3 \$4.25 No. 1 \$5.00 Improved No. 4 8.75 No. 2 \$.388 Improved No. 5 2.75 Sensity Fails                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Oliers—  Brass and Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Tubes, &c.— Carloads to Consumers.  Merchant Pipe.  Galvanized.  ½ to ½ inch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Wynn's Black Silk, 5 b pailsnch 70s Wynn's Black Silk, 5 b pailsnch 70s Wynn's Black Silk, 5 os. box, \$\pi\$ doz, \$1.00 Wynn's Black Silk, 5 os. box, \$\pi\$ doz, \$1.00 Poppers, Corn— Round or Square:  1 qt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Improved No. 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Oliers— Brass and Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Tubes, &c.— Carloads to Consumers.  Merchant Pipe.  Black, nized, 50% 34 to 34 inch. 63% 55% 55 to 13 inch. 63% Essel. 10 to 14 inch. 50% 154 inch. 50% 154 inch. 50% 154 inch. 50% 155% 150 13 inch. 50% 150 13 inch. 50% 150 15 inch. 50% 150 150 150 150 150 150 150 150 150 150                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Wynn's Black Silk, 5 b pailsnch 70s Wynn's Black Silk, 5 b pailsnch 70s Wynn's Black Silk, 5 os. box, \$\pi\$ doz, \$1.00 Wynn's Black Silk, 5 os. box, \$\pi\$ doz, \$1.00 Poppers, Corn— Round or Square:  1 qt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Improved No. 3 \$4.25 No. 1 \$5.00 Improved No. 4 \$7.5 No. 2 3.38 Improved No. 5 \$2.75 No. 2 3.38 Improved No. 5 \$2.75 No. 2 3.60 Millers Falls. 5.75 Smell's, Rice's Pat. 2.50 Swan's, No. 500. 5.10 No. 200 6.45 Holsting—  Moore's Anti-Friction Differential Pulley Block. 30% Moore's Hand Holst, with Lock Brake. 205 Washing—  Wayne American, 40x. \$28.00 Western Star, No. 2, 9 doz. 28.00 Western Star, No. 3, 9 doz. 30.00 No. 200 Mailets—  Hickory 4.568 \$506.55 Timers', Hickory and Applewood, doz. 500.00 No. 200 Mats—  Elastic Steel (W. G. Co.) 105                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Oliers— Brass and Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Tubes, &c.— Carloads to Consumers.  Merchant Pipe.  Black.  \$\frac{1}{2}\text{ to 16}\text{ inch.} \ .63 .63\text{ .63\t       | Wynn's Black Silk, 5 b pailanch 796 Wynn's Black Silk, 5 b pailanch 796 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Poppers, Corn— Round or Square: 1 qt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Improved No. 3 \$4.25 No. 1 \$5.00 Improved No. 4 8.75 No. 2 \$3.58 Improved No. 5 2.75 Jennings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Oliers—  Brass and Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Tubes, &c.— Carloads to Consumers.  Merchant Pipe.  Black. 14 to 14 inch. 638 508 34 to 8 inch. 638 508  Boiler Tubes.  Boiler Tubes.  Steel. 82 fest and over.  I to 114 inch. 508 158 144 to 214 inch. 508 158 215 inch. 508 158 216 inch. 508 158 216 inch. 508 158 216 inch. 508 188 216 inch. 508 188 216 inch. 508 188 216 inch. 508 188 216 inch 508 188 216 inch 608 318 216 inch 608 318 216 inch 608 318 216 inch 608 318 216 inch 608 316 inch 608 317 inch 608 318 inc  | Wynn's Black Silk, 5 b pailanch 796 Wynn's Black Silk, 5 b pailanch 796 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Poppers, Corn— Round or Square: 1 qt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Improved No. 3 \$4.25 No. 1 \$5.00 Improved No. 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Oliers—  Brass and Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Tubes, &c.— Carloads to Consumers.  Merchant Pipe.  Black. nized.  \$4 to \$4 inch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Wynn's Black Silk, 5 b paileach 70g Wynn's Black Silk, 5 b paileach 70g Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Poppers, Corn— Round or Square: 1 qt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Improved No. 3\$4.25 No. 1 \$5.00 Improved No. 4\$75 No. 2 \$3.88 Improved No. 5\$2.75 No. 2.75 Jennings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Brass and Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Tubes, &c.— Carloads to Consumers.  Merchant Pipe.  Black. nized.  \$4 to \$4 inch 63\$ 50\$  \$4 to \$8 inch 63\$ 50\$  Boiler Tubes.  Up to 22 fest and over.  I to 1½ inch 50\$ 25\$  2½ inch 50\$ 45\$  2½ inch 50\$ 30\$  I to 1½ inch \$6\$  2½ inch                                                                                                                                                                                                                              | Wynn's Black Silk, 5 b pailanch 796 Wynn's Black Silk, 5 b pailanch 796 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Poppers, Corn— Round or Square: 1 qt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Improved No. 3 \$4.25 No. 1 \$5.00 Improved No. 4 \$7.5 No. 2 3.38 Improved No. 5 \$2.75 No. 2 3.38 Improved No. 5 \$2.75 No. 2 3.60 Millers Falls. 5.75 Seman's, No. 500. 5.10 No. 200 6.45 Holsting—  Moore's Anti-Friction Differential Pulley Block. 30% No. 200 6.45 Washing—  Wayne American, Washing—  Wayne American, Washing—  Wayne American, Soc. \$28.00 Western Star, No. 2, \$20.00 No. 200 6.45 No. 200 No. 200 6.45 No. 200 No. 2                                                                                                    | Oliers— Brass and Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Tubes, &c.— Carloads to Consumers.  Merchant Pipe.  Black. 15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Wynn's Black Silk, 5 b pailanch 79 Wynn's Black Silk, 5 b pailanch 79 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, \$\pi\$ doz. \$1.00 Wyn |
| Improved No. 3\$4.25 No. 1 \$5.00 Improved No. 4\$75 No. 2 \$3.88 Improved No. 5\$2.75 No. 2 \$3.80 Improved No. 5\$2.75 Sendings. 2.50 \$5.75 Sendings. 2.50 \$5.75 Sendings. 2.50 \$5.75 Sendings. 2.50 \$5.75 Sendings. 2.50 No. 200 6.45 Washing—  Moore's Anti-Friction Differential Pulley Block. 30% Noore's Hand Holst, with Lock Brake. 20% Washing—  Wayne American, 40s. \$28.00 Western Star, No. 2, \$400 doz. 38.00 No. 200 6.25 Sendings. 38.00 No. 200 6.25 Sendings. 38.00 No. 200 8t. Louis, No. 41, \$40s. 60.00 Sendings. 38.00 No. 200 6.25 Sendings. 38.00 No. 200 6.45 No. 200 No                                                                                             | Oliers— Brass and Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Tubes, &c.— Carloads to Consumers.  Merchant Pipe.  Black.  \$\frac{1}{2} \text{ to 1}{2} \text{ inch.} \tag{63}{2} \text{ 55}{5} \text{ 55}{5} \text{ 55}{5} \text{ 55}{5} \text{ 55}{5} \text{ 55}{5} \text{ 50}{5} | Wynn's Black Silk, 5 b pailanch 79 Wynn's Black Silk, 5 b pailanch 79 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, 5 oz. box, \$\pi\$ doz. \$1.00 Wynn's Black Silk, \$\pi\$ doz. \$1.00 Wyn |
| Improved No. 3 \$4.25 No. 1 \$5.00 Improved No. 4 3.75 No. 2 3.38 Improved No. 4 3.75 No. 2 3.38 Improved No. 5 2.75 Shell's, Rice's Pat. 2.50 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Oliers— Brass and Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Tubes, &c.— Carloads to Consumers.  Merchant Pipe.  Galva-  14 to 34 inch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Wynn's Black Silk, 5 b pailsach 79     Wynn's Black Silk, 5 b pailsach 79     Wynn's Black Silk, 5 os. box, \$\psi\$ doz, \$1.00     Wynn's Black Silk, 5 os. box, \$\psi\$ doz, \$1.00     Poppers, Corn-    Round or Square:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Improved No. 3\$4.25 No. 1 \$5.00 Improved No. 4\$75 No. 2 3.88 Improved No. 4\$75 No. 2 3.88 Improved No. 5\$75 No. 2 3.89 No. 2 75 Jennings\$2.50 S.75 Jennings\$2.50 S.75 Jennings\$2.50 S.75 No. 200 6.45 No. 200                                                                                                            | Oliers— Brass and Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Tubes, &c.— Carloads to Consumers.  Merchant Pipe.  Galva-  14 to 34 inch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Wynn's Black Silk, 5 b pailsach 79     Wynn's Black Silk, 5 b pailsach 79     Wynn's Black Silk, 5 os. box, \$\psi\$ doz, \$1.00     Wynn's Black Silk, 5 os. box, \$\psi\$ doz, \$1.00     Poppers, Corn-    Round or Square:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Improved No. 3\$4.25 No. 1 \$5.00 Improved No. 4\$75 No. 2 3.88 Improved No. 4\$75 No. 2 3.88 Improved No. 5\$75 No. 2 3.89 No. 2 75 Jennings\$2.50 S.75 Jennings\$2.50 S.75 Jennings\$2.50 S.75 No. 200 6.45 No. 200                                                                                                            | Oliers— Brass and Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Tubes, &c.— Carloads to Consumers.  Merchant Pipe.  Galvanized.  \$\$ to \$\$ inch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Wynn's Black Silk, 5 b pailsach 79     Wynn's Black Silk, 5 b pailsach 79     Wynn's Black Silk, 5 os. box, \$\psi\$ doz, \$1.00     Wynn's Black Silk, 5 os. box, \$\psi\$ doz, \$1.00     Poppers, Corn-    Round or Square:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Improved No. 3\$4.25 No. 1 \$5.00 Improved No. 4\$75 No. 2 3.38 Improved No. 5\$2.75 No. 2 3.38 Improved No. 5\$2.75 Sendings\$2.50 \$5.75 Sendings\$2.50 \$5.                                                                                                                                                                                                                                                                                                                                             | Oliers— Brass and Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Tubes, &c.— Carloads to Consumers.  Merchant Pipe.  Black. 12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Wynn's Black Silk, 5 b pail                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Improved No. 3 \$4.25 No. 1 \$5.00 Improved No. 4 3.75 Improved No. 4 3.75 Improved No. 5 3.75 Improved No. 5. Improve                                                                                                                                                               | Oliers— Brass and Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Tubes, &c.— Carloads to Consumers.  Merchant Pipe.  Galvanized.  \$\$ to \$\$ inch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Wynn's Black Silk, 5 b pailsach 79     Wynn's Black Silk, 5 oz. box, \$ doz, \$1.00     Wynn's Black Silk, 5 oz. box, \$ doz, \$1.00     Wynn's Black Silk, 5 oz. box, \$ doz, \$1.00     Poppers, Corn-    Round or Square: 1 gro. \$7 00@\$8.00     1½ qt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Improved No. 3 \$4.25 No. 1 \$5.00 Improved No. 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Oliers— Brass and Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Tubes, &c.— Carloads to Consumers.  Merchant Pipe.  Galvanized.  \$\$ to \$\$ inch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Wynn's Black Silk, 5 b pailsach 79     Wynn's Black Silk, 5 b pailsach 79     Wynn's Black Silk, 5 oz, box, \$ dox \$1.00     Wynn's Black Silk, 5 oz, box, \$ dox \$1.00     Poppers, Corn                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Improved No. 3 \$4.25 No. 1 \$5.00 Improved No. 4 3.75 Improved No. 4 3.75 Improved No. 5 3.75 Improved No. 5. Improve                                                                                                                                                               | Oliers— Brass and Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Tubes, &c.— Carloads to Consumers.  Merchant Pipe.  Galva-  Black.  14 to 3/4 inch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Wynn's Black Silk, 5 b pail                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Improved No. 3 \$4.25 Improved No. 4 3.75 Improved No. 5 3.75 Improved No. 5 2.75 Improved No.                                                                                                                                                                                                                                                                                                                                                                               | Oliers— Brass and Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Tubes, &c.— Carloads to Consumers.  Merchant Pipe.  Galvanized.  \$\$ to \$\$ inch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Wynn's Black Silk, 5 b pail                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Improved No. 3 \$4.25 Improved No. 4 3.75 Improved No. 4 3.75 Improved No. 5 2.75 Improved No. 5 3.00 Improved No. 5.00                                                                                                                                                                                                                                                                                                                                                                              | Oliers— Brass and Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Tubes, &c.— Carloads to Consumers.  Merchant Pipe.  Galvanized.  \$\$ to \$\$ inch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Wynn's Black Silk, 5 b pail                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Improved No. 3. \$4.25 No. 1 \$5.00 Improved No. 4. \$7.5 No. 2 3.38 Improved No. 5. \$2.75   | Oliers— Brass and Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Tubes, &c.— Carloads to Consumers.  Merchant Pipe.  Galvanized.  \$\$ to \$\$ inch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Wynn's Black Silk, 5 b pail                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Improved No. 3. \$4.25 No. 1 \$5.00 Improved No. 5. \$.75 Improved No. 5. \$2.75 No. 2 \$3.88 Improved No. 5. \$2.75 | Oliers— Brass and Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Tubes, &c.— Carloads to Consumers.  Merchant Pipe.  Black.  1/4 to 1/4 inch.  6.53  5 to 12 inch.  6.53  6.55  Boiler Tubes.  1/5 to 1/4 inch.  5.55    | Wynn's Black Silk, 5 b pail                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Improved No. 3 \$4.25 No. 1 \$5.00 Improved No. 5 \$75 No. 2 3.38 Improved No. 5 \$2.75 No. 2 3.38 Improved No. 5 \$2.75 Separate No. 5 \$2.50 Separate No. 5 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Oliers— Brass and Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Tubes, &c.— Carloads to Consumers.  Merchant Pipe.  Galva- Black.  14 to 14 inch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Wynn's Black Silk, 5 b pail                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Improved No. 3. \$4.25 No. 1 \$5.00 Improved No. 4. \$75 No. 2 \$3.88 Improved No. 4. \$75 Improved No. 4. \$75 Improved No. 4. \$250 Sending No. 5.75 Improved No. 5.25 Sending No. 5.75 Improved No.                                                                                         | Oliers—  Brass and Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Tubes, &c.— Carloads to Consumers.  Merchant Pipe.  Galva- Black. nized.  \$4 to \$4 inch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Wynn's Black Silk, 5 b pail                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Improved No. 3 \$4.25 No. 1 \$5.00 Improved No. 5 \$75 No. 2 3.38 Improved No. 5 \$2.75 No. 2 3.38 Improved No. 5 \$2.75 Separate No. 5 \$2.50 Separate No. 5 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Oliers—  Brass and Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Tubes, &c.— Carloads to Consumers.  Merchant Pipe.  Galva- Black.  14 to 14 inch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Wynn's Black Silk, 5 b pail                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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| Pulleys-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Hog Rings and Ringers-                                                                                                                                                             | Scroll-                                                                                                                                                                                                                  | Bemis & Call Co.'s Plate. 205                                                                                                                                                                                                                         |
| Hoy Fork, Swivel or Solid Eyedoz. \$1,50@1.75                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Hill's Rings gro. boxes, \$3.50\( 5.00\) Hill's Ringers, \$G. 1                                                                                                                    | Barnes' No. 7, \$15                                                                                                                                                                                                      | Bemis & Call Co.'s Plate                                                                                                                                                                                                                              |
| was Fork Stowell's Anti-Friction, 3-10, 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Blair's Rings                                                                                                                                                                      | Barnes' Velocipede Power Scroll Saw,<br>without borng attachment. \$18:                                                                                                                                                  | Hammer, Bemis & Cell Co.'s new Pat. 455<br>Morrill's No. 1, \$15.00                                                                                                                                                                                   |
| Wheel, W doz. \$12.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Brown's Rings # gro. \$6.90\(\phi 6.25\) Brown's Ringers # doz. \$1.00\(\pi 1.10\epsilon\)                                                                                         | with oring attachment, \$18: with boring attachment, \$20                                                                                                                                                                | Nos. 3 and 4, Cross Cut, \$23.00,40&20%<br>No. 5, Mill, \$31.00                                                                                                                                                                                       |
| Japanned Green 70&10&10% Japanned Side 70&10&10% Japanned Green 70&10&10% Japanned John Japanned Japanned John Japanned Japan | Perfect Ringers. # doz\$1.25@1.35                                                                                                                                                  | Rogers, complete, \$4.0015210%                                                                                                                                                                                           | No. 10, \$15.50                                                                                                                                                                                                                                       |
| Stowell's Ceiling or End, Anti-Friction 60%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Rapid Rings                                                                                                                                                                        | Scale Beams -<br>See Beams, Scale.                                                                                                                                                                                       |                                                                                                                                                                                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Rivets and Burrs                                                                                                                                                                   | Scales-<br>Family, Turnbull's30@30&10%                                                                                                                                                                                   | Sharpeners, Knife-<br>Tanite Mills # gross, \$14.4025@931/4                                                                                                                                                                                           |
| Stowell's Electric Light                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Copper50@50&5%<br>Iron or Steel:                                                                                                                                                   | Hatch, Counter:                                                                                                                                                                                                          | Shaves, Spoke-                                                                                                                                                                                                                                        |
| Sash Pulleys—<br>Common Sense, 134 in \$\pi\$ doz., 20\$;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Tinners'                                                                                                                                                                           | Platform, 4 ib. by 14 oz doz. \$5.75<br>Two Platforms, 8 lb. by 14 oz                                                                                                                                                    | Irondoz. \$1 00@1 25<br>Wooddoz, \$1.75@2.25                                                                                                                                                                                                          |
| 2 in. 226.  Empire. 184 in. 17¢; 2 in., 19¢  Grand Rapida Ali Steel Noiseless. 40%  Ideal No. 18. 194 in. 40%  Improved. 194 in. 17¢; 2 in., 19¢  Nisgara. 194 in. 10¢; 2 in., 19¢  No. 26, Troy. 134 in. 10¢; 2 in. 19¢  Star. 194 in. 10¢; 2 in. 19¢  Etar. 184 in. 16¢; 2 in. 19¢  Tox. All-Steel, Nos. 3 and 7, 23; in. 19¢  Tox. All-Steel, Nos. 3 and 7, 25¢  Tox. 25¢                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Rivet Sets—See Sets.                                                                                                                                                               |                                                                                                                                                                                                                          | Balley's (Stanley R. & L. Co.) 50&10%<br>Goodell's, \$\pi\$ doz. \$9.00 15&10%                                                                                                                                                                        |
| Grand Rapids All Steel Noiseles 40% ideal No. 13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Roasting and Baking                                                                                                                                                                | Union Platform, Plain. \$1.75@2.00<br>Union Platform, Striped. \$1.85@2.15<br>Chatillon's Eureka. 354                                                                                                                    | Shears-                                                                                                                                                                                                                                               |
| Miagara                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Pans-See Pans, Roasting and                                                                                                                                                        | Chatillon's Favorite                                                                                                                                                                                                     | Cast Iron 7 8 9 in.                                                                                                                                                                                                                                   |
| No. 26, Troy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Baking. Rollers—                                                                                                                                                                   | Pelouze Scales - Family, Candy.<br>Grocers' and Postal New list net                                                                                                                                                      | Cast Iron 7 8 9 in.  Best\$16.00 18.00 #0.00 gro.  Good\$18.00 15.00 17 00 gro.                                                                                                                                                                       |
| Pox-All-Steel, Nos. 3 and 7, 214 in                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Acme, Stowell's Anti-Friction50%<br>Barn Door, Sargent's list. 80&10&10@70%                                                                                                        | Chatillon's Eurera. 25% Chatillon's Favorite. 40% Chatillon's Grocers' Trip Scales. 50% Pelouze Scales – Family. Candy. Grocers' and Postal. New list net "The Standard" Portables 45% The Standard" R. R. and Wagon 50% | Cheap \$5.00 6.00 7.00 gro. Straight Trimmers, &c.:                                                                                                                                                                                                   |
| No. 9, 134 in \$\forall dos. 25\epsilon \\ Extra for Plated Finish\$\pi\$ dos. 20\epsilon \\ Extra for Anti-Friction Bronze \\ Highlightarrow \text{User} \\ Highlightarrow \text{User} \\ Tackle Blocks-See Blocks.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Cronk's Stay 66% Cronk's Stay 66% Cronk's Brinkerhoff 66% Cronk's Brinkerhoff 66% Stay 83% 55 Btowell's Barn Door Stay 9 dos. \$1.25                                               | Scrapers— Box. 1 Handle                                                                                                                                                                                                  | Best quality, Jap 80&10&10@70&5%<br>Nickel60@60&5%                                                                                                                                                                                                    |
| Extra for Anti-Friction Bronze                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Lane's, Stay                                                                                                                                                                       | Box. 2 Handle doz. \$3.75@4.00<br>Ship, No. 1, doz. \$3.50; No. 2,                                                                                                                                                       | Fair qual. Jap                                                                                                                                                                                                                                        |
| Tackle Blocks—See Blocks.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Rope-                                                                                                                                                                              | \$2.20(0,2.40)                                                                                                                                                                                                           |                                                                                                                                                                                                                                                       |
| Pumps-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | NOTE.—Carload lots, except on Jute<br>Rope, 40, per lb. less than the following<br>prices, which are for small lots.                                                               | Adjustable Box Scraper (S. R. & L. Co.)<br>\$6.0030&10%                                                                                                                                                                  | Acme Cast Shears                                                                                                                                                                                                                                      |
| Cistern. 70d10@758 Pump Leathers, all sizes gro. \$6.00 Rarnes Dbl Actine (low list) 55% Fiint & Walling's Fast Mail 55%558.107                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | prices, which are for small lots.                                                                                                                                                  | \$6.00                                                                                                                                                                                                                   | National Cutlery Co., Nickel                                                                                                                                                                                                                          |
| Barnes Dbl Acting (low list) 50%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Manila, 7-16 in. and larger.                                                                                                                                                       | Screens, Window and                                                                                                                                                                                                      | Seymour's Nickel                                                                                                                                                                                                                                      |
| Flint & Walling's Fast Mail 55 55 55 10%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Manila                                                                                                                                                                             | Frames—<br>Bonanza Window Screens50&10&3%                                                                                                                                                                                | Wilkinson's Hedge50%                                                                                                                                                                                                                                  |
| Finit & Waiting's Fast main. 100 200 200 1 100 100 100 100 100 100 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Manila, Tarred Rope, 15<br>\threadlb @11\%c                                                                                                                                        | MaineWindow Screen Frames 40&10&5%<br>Phillips' Window Screen Frames60%                                                                                                                                                  | Wilkinson's Sheep                                                                                                                                                                                                                                     |
| chokable, B. & L. Block Co20%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Manila Hay Rone Med'm.lb @11%c                                                                                                                                                     | Porter's Extension Window Screens 50&10%                                                                                                                                                                                 | Forged Handles, Steel Blades 20 & 104                                                                                                                                                                                                                 |
| Punches—<br>Revolving (4 tubes)doz. \$4.00@4.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Sisal. 7-16 in. and larger.lb                                                                                                                                                      | Screw Drivers                                                                                                                                                                                                            | Malleable Handles, Laid with Steel.                                                                                                                                                                                                                   |
| gaddless' or Drive, good., doz. 6500.70c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Susal, Hay Kope. # to 10                                                                                                                                                           | See Drivers, Screw.                                                                                                                                                                                                      | Forged Handles, Steel Blades, Berlin 40&104                                                                                                                                                                                                           |
| Spring, good quality\$2.00@3 25 Bemis & Call Co.'s Cast Steel Drive 55 Bemis & Call Co.'s Check 55 Bemis & Call Co.'s Spring 50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ply                                                                                                                                                                                | Screws—<br>Bench and Hand—                                                                                                                                                                                               | Niagara Snips                                                                                                                                                                                                                                         |
| Bemis & Call Co.'s Check                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Lath Yarn                                                                                                                                                                          | Bench, Irondoz. 1 in., \$3.00@3.25;                                                                                                                                                                                      | Pruning Shears and Tools-<br>Crone's Pruning Shears                                                                                                                                                                                                   |
| Niagara Solid Punches                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Cotton Rope:  Best, ¼-in. and largerlb. 13@14 c  Med'm, ¼-in. and larger                                                                                                           | 11/6, \$3.50@3.75: 11/4, \$4.00@4.50<br>Bench, Wood, Beechdoz. \$3.50@2.75                                                                                                                                               | Disston's Combined Pruning Hook<br>and Saw, \$ doz. \$18.0025@25&10s<br>Disston's Pruning Hook, \$ doz. \$12.00                                                                                                                                       |
| Nlagara Hollow Funches 55% Bpring, Leach's Pat. 115% Bieel Screw, B & K. Mfg. Co. 40% Tinners' Hollow, P., S. & W. Co. 356353555                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 10. 10@18 C                                                                                                                                                                        | Hand, Wood                                                                                                                                                                                                               | Disston's Pruning Hook, # doz. \$12.00<br>25.325&105                                                                                                                                                                                                  |
| Tinners' Solid P S & W Co B doz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Com., 4-in. and larger.lb. 8@10 c<br>Jute Rope, No. 1, 14 in.                                                                                                                      | Hand, R. Bliss Mfg Co35% Coach, Lag and Hand Rail—                                                                                                                                                                       | John T. Henry Mfg. Company                                                                                                                                                                                                                            |
| Tinners' Solid, P., S. & W.Co., \$ dox., 55%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | and up                                                                                                                                                                             | Lag, Common Point, list Oct. 1,                                                                                                                                                                                          | Orange Shears50&30%                                                                                                                                                                                                                                   |
| Rall-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | and up                                                                                                                                                                             | '99                                                                                                                                                                                                                      | Tree Pruners                                                                                                                                                                                                                                          |
| Barn Door &c -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Wire Rope—<br>Galvanized                                                                                                                                                           | Oct. 1, '99                                                                                                                                                                                                              | John T. Henry Mfg. Company Pruning Shears all gradts                                                                                                                                                                                                  |
| Barn Door, Light. In. 14 56 44<br>100 feet\$3.00 \$2.50 \$5.00<br>B. D., for N. E. Hangers:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Plain                                                                                                                                                                              | Hand Rail, list Jan. 1,'81.60&10@\$  Jack Screws—                                                                                                                                                                        |                                                                                                                                                                                                                                                       |
| STRUM, Med. Larne.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Ropes, Hammock-                                                                                                                                                                    | Millers Falls                                                                                                                                                                                                            | Stowell's Anti-Friction50%<br>Patent Roller60&10@60&10&5%                                                                                                                                                                                             |
| 100 feet\$2 20 2.70 3.20<br>Sliding Door, Bronzed Wr't Iron,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Covert Mfg. Co                                                                                                                                                                     | Millers Falls                                                                                                                                                                                                            | Stowell's Anti-Friction                                                                                                                                                                                                                               |
| Sliding Door, Iron Painted. 9403c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Rules-<br>Boxwood75&10&10&10@75&10&10                                                                                                                                              | Machine-                                                                                                                                                                                                                 | R. & E                                                                                                                                                                                                                                                |
| Sliding Door, Wrought Brass, 11/4 in                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | æ10æ10%                                                                                                                                                                            | List Jan. 1, '98. Flat or Round Head, Iron.50@50&10%                                                                                                                                                                     | Sliding Shutter-                                                                                                                                                                                                                                      |
| Cronk's Double Braced Steel Rail,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Ivory 40&10&10&10&10&10&10&10&10&10&10&10&10&10                                                                                                                                    | 50@50&10%                                                                                                                                                                                                                | Reading list70&10@75%                                                                                                                                                                                                                                 |
| Cronk's Double Braced Steel Rall, \$\pi\$ foo'. 346 Cronk's O. N. I. Rall. 346 Lanes' O. N. T., \$\pi\$ 100 ft., 1 lnch. \$3.00 Lanes' Standard, \$\pi\$ 100 ft., 4.25 Lawrence Bros. \$\pi\$ ft. 446 Mok'inney's None Better. \$\pi\$ ft. 36 Mok'inney's Standard. \$\pi\$ ft. 36 More's, \$\pi\$' Standard. \$\pi\$ ft. 36 More's, \$\pi\$' Steel Rall. Plain                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Stanley R. & L. Co.;<br>Poxwood,73&10&10@75&10&10&10\$                                                                                                                             | Set and Cap—<br>Set (Iron or Steel)                                                                                                                                                                                      | R. & E                                                                                                                                                                                                                                                |
| Lanes' Standard, \$ 100 ft                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Ivory 35&10@35&10&10%                                                                                                                                                              | Sq. Hd. Cap                                                                                                                                                                                                              | Shells, Emoty-                                                                                                                                                                                                                                        |
| McKinney's None Better # ft. 3¢                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Sad Irons—See Irons, Sad.                                                                                                                                                          | Wood-                                                                                                                                                                                                                    | Brass Shells, Empty: First quality, a l gauges60&5% Club, Rival, Climax, 10 and 12 gauge                                                                                                                                                              |
| Moore's, Wr't. Bracket, Steel 346<br>Stowell's Steel Rail, Plain 167                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Sand and Emery Paper<br>and Cloth-                                                                                                                                                 |                                                                                                                                                                                                                          | Danas Shalla Fonts . 65&5%                                                                                                                                                                                                                            |
| Rakes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | See Paper and Cloth.                                                                                                                                                               | Flat Head, Iron                                                                                                                                                                                                          | Acme, Ideal, Leader, New Rapid,<br>Bmokeless 10, 12, 16 and 20 gauge,<br>33½£104                                                                                                                                                                      |
| Rakes—<br>Aug. 1, 1899, List:<br>Cast Steel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Sash Cords-See Cord, Sash.                                                                                                                                                         | Flat Head, Brass                                                                                                                                                                                                         | B'ue Rival. New Climax. Prin rose                                                                                                                                                                                                                     |
| Town Rabes Metal Head per dor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Sash Locks-See Locks, Sash.<br>Sash Weights-                                                                                                                                       | Round Head, Brass                                                                                                                                                                                                        | Blue Rival, New Climax, Prin rose<br>Club, Yellow Rival, 10, 13, 16 and 1<br>20 gauge                                                                                                                                                                 |
| 20 teeth, \$3.25; 24 teeth \$3.50. Fort Madison Red Head Laws \$3.25 Fort Madison Blue Head Lawn \$3.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | See Weights, Sash.                                                                                                                                                                 | Drive Screws80%                                                                                                                                                                                                          | 20 gauge. 15. Climax. Club. League, Rival, 14, 16 and 20 gauge (47.50 list)20255 Climax. Club. League, Rival, 10 and 12 gauge.                                                                                                                        |
| Fort Madison Blue Head Lawn\$3.00<br>Kohler's Lawn Queen, 24-tooth, \$\psi\$ doz.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Sausage Stuffers or Fill-                                                                                                                                                          | Scroll Saws—See Saws, Seroll.                                                                                                                                                                                            | Climax. Club. League, Rival, 10 and                                                                                                                                                                                                                   |
| Kohler's Paragon, 24-tooth, 2 doz. 83 00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ers—See Stuffers or Fillers,<br>Sausage.                                                                                                                                           | Grass Scythes:                                                                                                                                                                                                           | 12 gauge                                                                                                                                                                                                                                              |
| Kohler's Steel Garden, 14-tooth, W dog.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Saw Frames-                                                                                                                                                                        | Natural Finish.per doz. \$7.75@8,00<br>Pol. Bladeper doz. \$8.25@8,40                                                                                                                                                    | Trap and Metal Lined, 10, 12, 16 and                                                                                                                                                                                                                  |
| Kohler's Malleable Garden, 14-tooth.  † doz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | See Frames, Saw.                                                                                                                                                                   | Painted or Bronzedper doz. \$8.25<br>Weed and Bushper doz. \$7.50@7.75                                                                                                                                                   | gauge 15% Trap and Metal Lined, 10, 12, 16 and 20 gauge 33441045% Shells, Loaded                                                                                                                                                                      |
| Rasps, Horse-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Saw Sets—See Sets, Saw.<br>Saw Tools—See Tools, Saw.                                                                                                                               | NOTE The above are about the associa-                                                                                                                                                                                    | Loaded with Didek Powder                                                                                                                                                                                                                              |
| Rasps, Horse—                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                    | tion prices to small trade, but are freely out by jobbers.                                                                                                                                                               | Loaded with Nitro Powder.                                                                                                                                                                                                                             |
| Account of the Co. Horse Kasps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Atkins' Circular                                                                                                                                                                   | Scythe Snaths                                                                                                                                                                                                            | Shoes, Horse, Mule, &c                                                                                                                                                                                                                                |
| Trionolison Library Lasp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Atkins Band                                                                                                                                                                        | See Snaths, Scythe.                                                                                                                                                                                                      | Factory Shipments: Horse and Mule, per keg\$3 00@3.50                                                                                                                                                                                                 |
| Razor Strops—                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Atkins' One-Man Saw                                                                                                                                                                | Raisin—<br>Enterprise                                                                                                                                                                                                    | Burden's, all sizes, per resp., \$5,00(65.50) Burden's, all sizes, Ferkins, &c., \$3,75,55 Diamond State, Orescent &c., \$3,75,105 Schoenberger.  Norm.—There is a good deal of usecosyness in current prices, whether from manufacturers or jobbers. |
| Fox Razors, No. 82, Platina, e doz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Atkins' Wood Saws                                                                                                                                                                  |                                                                                                                                                                                                                          | Diamond State, Crescent &c.,\$3.75104<br>Schoenberger                                                                                                                                                                                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Disson Band 2 to 14 in, wide60%                                                                                                                                                    | Awl and Tool-<br>Brad Awl and Tool Sets:                                                                                                                                                                                 | NOTE Inere is a good deal of un-<br>evenness in current prices, whether from                                                                                                                                                                          |
| See Strops, Razor.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Disstort circular Solul and Inserte 1 Toots                                                                                                                                        | Wood Halle, 10 Awls doz. \$2.00@3.25                                                                                                                                                                                     | Shot-                                                                                                                                                                                                                                                 |
| Fishing-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Disston Narrow Crosscuts50@50&10%<br>Disston Mulay, Mill and Drag                                                                                                                  | Wood Hdle., 14 Awls, 6 Tools<br>doz. \$2.50@2.60                                                                                                                                                                         | Dron, up to B. 25-lb han 41 95/21 95                                                                                                                                                                                                                  |
| dold, Bronze, Silver, Rubber, Populo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Disston Framed Woodsaws.35@35&714%<br>Disston Woodsaw Hades40@40&714%                                                                                                              | A'ken's Sets, Aw and Tools: S00(gb.50) No. 20, 9 doz. \$10.00.60&10&60&10&55 Fray's Add, Tool HdisNos. 1, \$12; 9, \$18; 3, \$12; 4, \$9; 5, \$7                                                                         | Drop, up to B, 5-lb, bag                                                                                                                                                                                                                              |
| list and Quadruple, all sizes. 25%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Disston Woodsaw Rods 25%<br>Di-ston Handsaws, Nos. 12, 99, 9, 16,                                                                                                                  | Fray's Adj. Tool H dlsNos. 1, \$13; 2, \$18; 3, \$12; 4, \$9; 5, \$750\$                                                                                                                                                 | Drop. B and larger, 5-lb hag 98                                                                                                                                                                                                                       |
| and PN, 202P and PN, 102 PR and                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | d100, D3, 120, 73, 77, 825@25&7\\d<br>Disston Hand Saws, Nos. 7, 107, 10 \(\bar{\psi}_2\).                                                                                         | \$12; No. 4, \$12; No. 5, \$18 15&105                                                                                                                                                                                    | Buck, 25-10, bag                                                                                                                                                                                                                                      |
| PN. 00304P and PN, 502 and 502N,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 3, 1, 0, 00, Combination 30@30&714%<br>Disston Compass Kaynol -, &c25@25&714%                                                                                                      | Stanley a Excelsior: No. 1, \$7.50; No. 3 \$4.00; No. 3,                                                                                                                                                                 | Chilled, 25 lb. bag. \$1.50@1.60 Dust Shot, 25-lb. bag. \$2.00@2.10                                                                                                                                                                                   |
| Series, 3004N and PN 4N and Plant                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Disston Butcher Saws and Biades                                                                                                                                                    | \$5.5030&10@30&10&10%<br>Garden Tool Sets—                                                                                                                                                                               | L'ast Shot, 5-10 odg50                                                                                                                                                                                                                                |
| Fishing— Fishing— Fishing— Bendryx Aluminum, German Silver, stoid, Bronze, Silver, Rubber, Populo and Saimon, Single Action, Multiply— Lar and Quadruple, all sizes———————————————————————————————————                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 35@35&7½%<br>C. E. Jennings & Co.'s25&5@30&5%<br>Peace Circular and Mill                                                                                                           | Ft. Madison Rakes, Shovel and Hoe                                                                                                                                                                                        | Shovels and Spades-                                                                                                                                                                                                                                   |
| Registers-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Peace Cross Cuts, list Jan.1,'9950%<br>Peace Hand, Panel and Rip30%                                                                                                                | Nail-                                                                                                                                                                                                                    | No. 2, Polished, Sq. or Rd. Point, D<br>or L Handle:                                                                                                                                                                                                  |
| Mark Jap                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Peace Circular and Mill. 505<br>Peace Circular and Mill. 505<br>Peace Hand, Fanel and Rip. 305<br>Richardson's Circular and Mill. 505<br>Richardson's X Cuta, tist Jan. 1, 99. 505 | Round, assortedgro. \$3.25@\$.75<br>Octagongro. \$4.25@4.75                                                                                                                                                              | 1st Grade, 2d Grade                                                                                                                                                                                                                                   |
| in the Jap. 40%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Richardson's Hand. &c                                                                                                                                                              | Knurled, Goodgro, \$6,00@6.50                                                                                                                                                                                            | Plain Back \$10.50 \$9.60                                                                                                                                                                                                                             |
| Fideline Crain on Com. 40%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Saws                                                                                                                                                                               | Buck Brothers. 274%<br>Cannon's Diamond Point, #gr. \$13.25%<br>Snell's Corrugated, Cup Pt. 50%<br>Snell's Knurled, Cup Pt. 66%                                                                                          | Strap Back 9.90 9.00<br>Cleveland Pat'n 10.20 9.30                                                                                                                                                                                                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Saws                                                                                                                                                                               | Snell's Knurled, Cup Pt                                                                                                                                                                                                  | C3, D4, Sd Grade. 4th Grade                                                                                                                                                                                                                           |
| 16 n. per dos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 8aws                                                                                                                                                                               | Rivet—<br>Regular list70@70&10&5%                                                                                                                                                                                        | Plain Back \$3.70 \$8.10                                                                                                                                                                                                                              |
| Bull Rings-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Disaton Concave Blades                                                                                                                                                             | Saw-                                                                                                                                                                                                                     | Strap Back 8.10 7.50 Cleveland Pat'n 8.40 7.80 All other sizes add 30c doz.                                                                                                                                                                           |
| 2 2% Inch.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Diss'on Keystone                                                                                                                                                                   | Aiken's Genuine                                                                                                                                                                                                          | Black deduct 30c doz.  Note.—The above are the regular Asso-                                                                                                                                                                                          |
| 30 75 0.83 0.88 doz.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Griffin's Hack Saw Blades                                                                                                                                                          | Atkin's Criterion                                                                                                                                                                                                        | ciation prices to small retailers, but are often shaded by jobbers \$0.50@1.00                                                                                                                                                                        |
| and dies.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Hack Rows and Blades15&10%                                                                                                                                                         |                                                                                                                                                                                                                          | The manage of Tonnois Annoy Trans                                                                                                                                                                                                                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | II.                                                                                                                                                                                |                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                       |

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| Shovels and Tongs-                                                                               | Tinned Irondoz. \$0.75@1.25<br>Iron, Porcelain Lined doz. \$2 90@3.25                                                                                                                                   | Eddy's Steel 40@40&5%<br>Eddy's Metallic 3314@3314&5%<br>Keuffel & Esser Co., Steel and Metallic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | India 3-Ply Hemp, 1½-lb. Balls 2, 3, 4 and 5-Ply Jute, ½-lb. Balls.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                                                                                  | Jennings' Star                                                                                                                                                                                          | Keuffel & Esser Co., Steel and Metallic, Lower list, 1899                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Mason Line, Linen, ½-lb, Balls, Mc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Hunter's Imitation.gro. \$11.00@12.00                                                            | Staples— Barbed Blind                                                                                                                                                                                   | Thermometers-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | W 001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Buffalo Metallic Blued, S. S. & Co., № gr.:<br>14&16 16&18 18&20<br>\$12.90 \$13.80 \$15.90      | Electricians', Association list, 75&10%<br>Fence Staples, same price as Barbed<br>Wire, See Trade Report,                                                                                               | Tin Case80@80&10%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Vises-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Electric Light gr. \$12.00                                                                       | Poultry Netting, Staples 80&10%<br>Grand Crossing Tack Co.'s list75&10%                                                                                                                                 | Ties, Bale—Steel. Standard Wire50&10&5%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Solid Box                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                  | Steels, Butchers'-                                                                                                                                                                                      | Ties, Wall-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Parallel— Athol Machine Co.: Simpson's Adjustable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Sieves, Wooden Rim—<br>Nested, 10, 11 and 12 Inch.<br>Mesh 18, Nested, doz\$3,75@0.89            | Dick's       40%         Foster Bros'       30%         C. & A. Hoffmann's       40%                                                                                                                    | Cleveland, Steel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Standard                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Mesh 20, Nested, doz                                                                             | Nichols Bros                                                                                                                                                                                            | See Shears, Tinners', &c.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Amateur 305 Bonney's 504 105 Fisher & Norris Double Screw 152105 Hollands' 102 Machinists' 103                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Sinks-<br>Cast Iron-                                                                             | Stocks and Dies-<br>Blacksmiths'                                                                                                                                                                        | Stamped, Japanned and Pleced, sold                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 103   104   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105   105 |
| Standard list                                                                                    | Gardner                                                                                                                                                                                                 | very generally at net prices.  Tire Benders, Upsetters,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Miller's Falls low list tos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| in lists used by jobbers.  Wrought Steel                                                         | Little Glant                                                                                                                                                                                            | &cSee Benders and Upset-<br>ters, Tire.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Victor 900000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Columbus Galv'd and Enameled60&5%<br>Columbus, Painted                                           | Stone-                                                                                                                                                                                                  | Tobacco Cutters-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Regulars   2002256     Vulcan's   400456     Combination Pipe   556406     Prentiss   2002256                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| L. & G. Mrg. Co., Enameled                                                                       | Scythe Stones—                                                                                                                                                                                          | See Cutters, Tobacco.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Prentiss   20e255                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Cast Iron                                                                                        | Pike Mfg. Co., list '95-'96                                                                                                                                                                             | Coopers'-<br>L. & I. J. White20@20&5%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Stephens'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Steel                                                                                            | Oll Stones, &c. Pike Mfg. Co.: Hindostan No. 1, # h8¢)                                                                                                                                                  | Saw- Atkins' new list                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Saw Filers-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Slates-<br>"D" Slates50&10@50&10&10%                                                             | Hindostan No. 1, \( \psi \) \( \mathbb{h} \). \( 8\epsi \) Sand Stone                                                                                                                                   | Simonds' Improved33½%<br>Simonds' Crescent25%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Bonney's, No. 1, \$13; No. 3, \$16.50&10%<br>Disston's D 8 Clamp and Guide, \$\vec{\pi} d z \\ \$30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| "D" Slates50&10@50&10&10%<br>Unexcelled Noiseless Slates<br>60&5 tens@60&5 lens&5%<br>Wire Bound | Turkey Slips\$1.50                                                                                                                                                                                      | L. & I. J. White25%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Reading                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Wire Bound                                                                                       | Washita Stone, Extra50¢                                                                                                                                                                                 | Transom Lifters—<br>See Lifters, Transom.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Miscellaneous- Bignall & Keeler Combination Pipe                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Slicers, Vegetable— Sterling \$ 2.0038345                                                        | Rosy Red Slips                                                                                                                                                                                          | Traps - Game -<br>Oneida Pattern 70&10@75&10%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Vise                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Snaps, Harness-<br>German                                                                        | Washita Stone, No. 1                                                                                                                                                                                    | Newnouse                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 87 Series                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Covert Mfg. Co.:                                                                                 | India Oil Stoves                                                                                                                                                                                        | Star (Blake Pattern)65&10@70&5%  Mouse and Rat—                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Wads-Price Per M.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| High Grade 45&2%  Jockey 40.82%  Trojan 45&2%                                                    | Stoners-                                                                                                                                                                                                | Mouse, Wood, Choker, doz, holes 9@91/2c<br>Mouse, Round or Square Wire                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | B. E., 11 up                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Crown                                                                                            | Cherry—<br>Enterprise25@30%                                                                                                                                                                             | doz. \$0,85@1.00 Marty French Rat and Mouse Traps (Genuine): No. 1, Rat, # doz. \$12.00; case of 24                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | B. E., 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| W. & E. T. Fitch Co.:                                                                            | Stops, Bench-                                                                                                                                                                                           | No. 3. Rat. W doz. \$5.50: case of 50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | P. E., 11 up                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Empire                                                                                           | Millers Falls                                                                                                                                                                                           | 85.00<br>No. 316, Rat, \$\psi\$ doz. \$4.50; case of 72<br>\$4.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | P. E., 7 1.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Clipper 50&55<br>Champion 40\$                                                                   | Stops, Window-                                                                                                                                                                                          | No. 4, Mouse, # doz. \$3.50; case of 72<br>\$2.75<br>No. 5, Mouse, # doz. \$2.75; case of 150                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Ely's P. E., 12 to 20\$5.00@5.25  Wagon Jacks—                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Victor                                                                                           | Taplin's                                                                                                                                                                                                | Schuyler's Rat Killer, No. 1, \( \pi \) gr. \$30.00;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                                                                                                  |                                                                                                                                                                                                         | No. 2, # gr. \$30.00; Mouse, No. 3,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | See Jacks, Wagon.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                                                                  | Stove Boards— See Boards, Stove.                                                                                                                                                                        | No. 2, 7 gr. \$30.00; Mouse, No. 3,<br>\$18.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Ware, Hollow-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| One: A formun ty: Soi d Steel                                                                    | Stove Boards-                                                                                                                                                                                           | No. 2, # gr. \$30.00; Mouse, No. 3,<br>\$18.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Ware, Hollow- Aluminum- S. S. & Co. Reduced List405                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| One: A - Ommun ty:                                                                               | Stove Boards— See Boards, Stove. Stove Polish—See Polish, Stove. Straps, Box—                                                                                                                           | No. 2, # gr. \$30.00; Mouse, No. 3, \$18.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Ware, Hollow— Aluminum— S. S. & Co. Reduced List405  Cast Iron, Hollow— Stove Hollow Ware:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| One: A - ommun ty: Soi d Steel                                                                   | Stove Boards— See Boards, Stove. Stove Polish—See Polish, Stove.                                                                                                                                        | No. 2, # gr. \$30.00; Mouse, No. 3,<br>\$18.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Ware, Hollow- Aluminum- S. S. & Co. Reduced List                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| One: A - John Burt 19: 85:65&105 Sold Steel                                                      | Stove Boards— See Boards, Stove.  Stove Polish—See Polish, Stove.  Straps, Box— Cary's Universal case lots20&10%  Stretchers, Carpet— Cast Iron, Steel Pointsdoz. 55@65c Cast Steel, Polisheddoz. 22.25 | No. 2, # gr. \$30.00; Mouse, No. 3, \$18.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Ware, Hollow— Aluminum— S. S. & Co. Reduced List                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| One: A - ommun ty: Soi d Steel                                                                   | Stove Boards— See Boards, Stove.  Stove Polish—See Polish, Stove.  Straps, Box— Cary's Universal, case lots20&10%  Stretchers, Carpet— Cast Iron, Steel Polished                                        | No. 2, # gr. 430.00; Mouse, No. 3, \$18.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Ware, Hollow— Aluminum— S. S. & Co. Reduced List                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| One: A - John Sun ty: Soi d Steel                                                                | Stove Boards— See Boards, Stove.  Stove Polish—See Polish, Stove.  Straps, Box— Cary's Universal case lots                                                                                              | No. 2, # gr. \$30.00; Mouse, No. 3, \$18.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Ware, Hollow- Aluminum- S. S. & Co. Reduced List                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| One: A - Sommun ty: Soid Steel                                                                   | Stove Boards— See Boards, Stove.  Stove Polish—See Polish, Stove.  Straps, Box— Cary's Universal case lots                                                                                              | No. 2, # gr. \$30.00; Mouse, No. 3, \$18.00 Flv—  Balloon, Globe or Acme dos. \$1.15@1 25; gro. \$12.00@1h.00  Harper, Champion or Paragon doz. \$1.25@1.40; gro. \$12.50@15.00  Trimmers, Spoke—  Bonney's Nos. 1 and 2 40%  Stearns 25%  Trowels— Di ston Bri-k and Point'ng 30% Disston Pl-ateriag 25%  Daston "Standard Brand" and Garden Trowels gro. \$7.00  Peace's Plastering gro. \$7.00  Peace's Plastering 30% Rose Brick and Plastering 25%  Woodrough&McParlin,Pl'st'ring. 25&10%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Ware, Hollow- Aluminum- S. S. & Co. Reduced List                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| One: A community: Soi d Steel                                                                    | Stove Boards— See Boards, Stove.  Stove Polish—See Polish, Stove.  Straps, Box— Cary's Universal case lots                                                                                              | No. 2. # gr. \$30.00; Mouse, No. 3, \$18.00 Fly—  Balloon, Globe or Acme dox. \$1.15@1 25; gro. \$12.00@14,00  Harper, Champion or Paragon doz. \$1.25@1.40; gro. \$13.50@15.00  Trimmers, Spoke—  Bonney's Nos. 1 and 2 40% Stearns 25%  Trowels— Di ston Bri-k and Pointing. 25% Disston Pi-stering. 25% Disston Staudard Brand's and Garden Trowels 40% Never-Break steel Garden Trowels 90% Rose Brick and Plastering. 25%55 Woodrough&MoParlin, Pl'st'ring, 25&15% Woodrough&MoParlin, Pl'st'ring, 25&15% Trucks, Warehouse, &c.—                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Ware, Hollow- Aluminum— S. S. & Co. Reduced List                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| One: A - Ommun ty: Soi d Steel                                                                   | Stove Boards— See Boards, Stove.  Stove Polish—See Polish, Stove.  Straps, Box— Cary's Universal case lots                                                                                              | No. 2, # gr. \$30.00; Mouse, No. 3, \$18.00 Flv—  Balloon, Globe or Acme dos. \$1.15@1 25; gro. \$12.00@11.00  Harper, Champion or Paragon doz. \$1.25@1.10; gro. \$12.50@15.00  Trimmers, Spoke— Bonney's Nos. 1 and 2 40% Stearns 25%  Trowels— Di ston Bri-k and Point'ng 30% Disston Pi-stering 30% Never-Break steel Garden Trowels 40% Never-Break steel Garden Trowels 50% Rose Brick and Plastering 25&5% Woodrough&McParlin,Pl'st'ring, 25&10%  Trucks, Warehouse, &c.— B. & L. Block Co.'s list 40% Dalsy Stove Frucks, Improved pattern Model Stove Trucks \$40.251.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Ware, Hollow- Aluminum— S. S. & Co. Reduced List                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| One i.a. John Sunt y: Sol d Steel                                                                | Stove Boards— See Boards, Stove.  Stove Polish—See Polish, Stove.  Straps, Box— Cary's Universal case lots                                                                                              | No. 2, # gr. \$30.00; Mouse, No. 3, \$18.00  FIV—  Balloon, Globe or Acme dos. \$1.15@1 25; gro. \$12.00@14,00  Harper, Champion or Paragon doz. \$1.25@1.40; gro. \$13.50@15.00  Trimmers, Spoke—  Bonney's Nos. 1 and 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Ware, Hollow— Aluminum— S. S. & Co. Reduced List                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| One i.a. John Sunt y: Sol d Steel                                                                | Stove Boards— See Boards, Stove.  Stove Polish—See Polish, Stove.  Straps, Box— Cary's Universal case lots                                                                                              | No. 2, # gr. \$30.00; Mouse, No. 3, \$18.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Ware, Hollow— Aluminum— S. S. & Co. Reduced List                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| One 1.a. John June 19:  Sol d Steel                                                              | Stove Boards— See Boards, Stove.  Stove Polish—See Polish, Stove.  Straps, Box— Cary's Universal case lots                                                                                              | No. 2, # gr. \$30.00; Mouse, No. 3, \$18.00 Fly—  Balloon, Globe or Acme dos. \$1.15@1 25; gro. \$12.00@14.00  Harper, Champion or Paragon doz. \$1.25@1.40; gro. \$13.50@15.00  Trimmers, Spoke—  Bonney's Nos. 1 and 2 40% Stearns 255  Di ston Bri-k and Pointing 255 Disston Pi-stering 255 Disston 'Standard Brand' and Garden Trowels 40% Never-Break steel Garden Trowels 30% Rose Brick and Plastering 25&55 Woodrough&McParlin,Plst'ring.25&10%  Trucks, Warehouse, &C.— B. & L. Block Co.'s list 40% Daisy Stove Trucks, Improved pattern 40x \$21.00  Model Stove Trucks 40x 40x \$18.50  Tubs, Wash—  School 2 & Galvanized, per doz. \$5.00 550 6.00 Galvanized, per doz. \$5.00 550 6.00 Galvanized Wash tubs (8. & & Co.):  Per doz \$5.25 6.00 6.75 6.50 7 25 8.00  Twine—                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Ware, Hollow— Aluminum— S. S. & Co. Reduced List                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| One i.a. John Sunt y: Sol d Steel                                                                | Stove Boards— See Boards, Stove.  Stove Polish—See Polish, Stove.  Straps, Box— Cary's Universal case lots                                                                                              | No. 2, # gr. \$30.00; Mouse, No. 3, \$18.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Ware, Hollow— Aluminum— S. S. & Co. Reduced List                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| One: A - Ommun ty: Soi d Steel                                                                   | Stove Boards— See Boards, Stove.  Stove Polish—See Polish, Stove.  Straps, Box— Cary's Universal case lots                                                                                              | No. 2, # gr. \$30.00; Mouse, No. 3, \$18.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Ware, Hollow— Aluminum— S. S. & Co. Reduced List                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| One: A - Ommun ty: Sol d Steel                                                                   | Stove Boards— See Boards, Stove.  Stove Polish—See Polish, Stove.  Straps, Box—  Cary's Universal case lots                                                                                             | No. 2, # gr. \$30.00; Mouse, No. 3, \$18.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Ware, Hollow— Aluminum— S. S. & Co. Reduced List                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| One: A - Sommun ty: Soid Steel                                                                   | Stove Boards— See Boards, Stove.  Stove Polish—See Polish, Stove.  Straps, Box— Cary's Universal case lots                                                                                              | No. 2, # gr. \$30.00; Mouse, No. 3, \$18.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Ware, Hollow— Aluminum— S. S. & Co. Reduced List                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| One: A - Ommun ty: Soi d Steel                                                                   | Stove Boards— See Boards, Stove.  Stove Polish—See Polish, Stove.  Straps, Box—  Cary's Universal case lots                                                                                             | No. 2, # gr. \$30.00; Mouse, No. 3, \$18.00  FIV—  Balloon, Globe or Acme dos. \$1.15@1 25; gro. \$12.00@14.00  Harper, Champion or Paragon doz. \$1.25@1.40; gro. \$13.50@15.00  Trimmers, Spoke—  Bonney's Nos. 1 and 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Ware, Hollow— Aluminum— S. S. & Co. Reduced List                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| One: A community: Sol d Steel                                                                    | Stove Boards— See Boards, Stove.  Stove Polish—See Polish, Stove.  Straps, Box—  Cary's Universal case lots                                                                                             | No. 2, # gr. \$30.00; Mouse, No. 3, \$18.00  FIV—  Balloon, Globe or Acme dos. \$1.15@1 25; gro. \$12.00@14.00  Harper, Champion or Paragon doz. \$1.25@1.40; gro. \$13.50@15.00  Trimmers, Spoke—  Bonney's Nos. 1 and 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Ware, Hollow— Aluminum— S. S. & Co. Reduced List                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| One is sommunity: Sold Steel                                                                     | Stove Boards— See Boards, Stove.  Stove Polish—See Polish, Stove.  Straps, Box— Cary's Universal case lots                                                                                              | No. 2, # gr. \$30.00; Mouse, No. 3, \$18.00  FIV—  Balloon, Globe or Acme dos. \$1.15@1 25; gro. \$12.00@14.00  Harper, Champion or Paragon doz. \$1.25@1.40; gro. \$13.50@15.00  Trimmers, Spoke—  Bonney's Nos. 1 and 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Ware, Hollow— Aluminum— S. S. & Co. Reduced List                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| One: A - Ommun ty: Sol d Steel                                                                   | Stove Boards— See Boards, Stove.  Stove Polish—See Polish, Stove.  Straps, Box— Cary's Universal case lots                                                                                              | No. 2, # gr. \$30.00; Mouse, No. 3, \$18.00  FIV—  Balloon, Globe or Acme dos. \$1.15@1 25; gro. \$12.00@14.00  Harper, Champion or Paragon doz. \$1.25@1.40; gro. \$13.50@15.00  Trimmers, Spoke—  Bonney's Nos. 1 and 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Ware, Hollow— Aluminum— S. S. & Co. Reduced List                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| One: A - Ommun ty: Soi d Steel                                                                   | Stove Boards— See Boards, Stove.  Stove Polish—See Polish, Stove.  Straps, Box—  Cary's Universal case lots                                                                                             | No. 2. # gr. \$30.00; Mouse, No. 3, \$18.00  FIV—  Balloon, Globe or Acme dox. \$1.15@1 25; gro. \$12.00@14.00  Harper, Champion or Paragon doz. \$1.25@1.40: gro. \$13.50@15.00  Trimmers, Spoke—  Bonney's Nos. 1 and 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Ware, Hollow— Aluminum— S. S. & Co. Reduced List                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| One is sommunity: Soid Steel                                                                     | Stove Boards— See Boards, Stove.  Stove Polish—See Polish, Stove.  Straps, Box— Cary's Universal case lots                                                                                              | No. 2. # gr. \$30.00; Mouse, No. 3, \$18.00  FIV—  Balloon, Globe or Acme dox. \$1.15@1 25; gro. \$12.00@14,00  Harper, Champion or Paragon doz. \$1.25@1.40: gro. \$13.50@15.00  Trimmers, Spoke—  Bonney's Nos. 1 and 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Ware, Hollow— Aluminum— S. S. & Co. Reduced List                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| One: A - Ommun ty: Sol d Steel                                                                   | Stove Boards— See Boards, Stove.  Stove Polish—See Polish, Stove.  Straps, Box— Cary's Universal case lots                                                                                              | No. 2. # gr. \$30.00; Mouse, No. 3, \$18.00 Fly—  Balloon, Globe or Acme dox. \$1.15@1 25; gro. \$12.00@14.00  Harper, Champion or Paragon doz. \$1.25@1.40: gro. \$13.50@15.00  Trimmers, Spoke—  Bonney's Nos. 1 and 2 40% Stearns 25%  Trowels— Di ston Bri-k and Pointing 25% Disston 'Standard Brand' and Garden Trowels 40% Never-Break steel Garden Trowels 30% Rose Brick and Plastering 25% Woodrough&MoPariin, Pl'string. 25&15% Wo | Ware, Hollow— Aluminum— S. S. & Co. Reduced List                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

| Washers-<br>Leather, Axle-                                                                                                                                                  |                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Solid                                                                                                                                                                       | 85æ5%<br>•     |
| Iron or Steel                                                                                                                                                               | 00             |
| Six bolt 5-16 36 ½ 36<br>Washers \$5.70 4.80 3.50 3.30<br>In lats less than one keg add<br>10. 5-10. boxes add ½c to list.<br>Cast Washers<br>Over 16 inch, barrel lots per | c per          |
| Washer Cutters→                                                                                                                                                             |                |
| See Cutters, Washer.                                                                                                                                                        |                |
| Washing Machines-<br>See Machines, Washing.                                                                                                                                 |                |
| Water Coolers-<br>See Coolers, Water.                                                                                                                                       |                |
| Weaners— Tyler's Now Ha'ter— No. 1 @ doz. No. 2, \$3.70; No 3, \$4.00; No 4 Tyler's 84'etv—Nos. 1 nd 2, @ doz. No. 3, \$2.20; No. 4, \$2.30.                                | 81 310         |
| Wedges-<br>Oil Finish                                                                                                                                                       | @4140<br>@4140 |
|                                                                                                                                                                             |                |

| Eastern prices\$25.0                                                    |
|-------------------------------------------------------------------------|
| Western prices \$20.0                                                   |
| NOTE.—There is a wide difference in prices East and West, and some Foun |
| dries are naming lower prices than the                                  |
| above.                                                                  |
| Well Buckets, Galvanized<br>See Pails, Galvanized.                      |
| Wheels Well-                                                            |
| 8-in , \$1 75@1.85; 10-in., \$2.25@2.35                                 |
| 12-in., \$2.75@2.85; 14-in., \$4.25@4.40                                |
| Wire and Wire Goods-                                                    |
| Brt, and Ann., 6 to 9                                                   |
| Brt. and Ann., 10 to 18721/2@59                                         |
| Brt, and Ann., 19 to 36                                                 |
| Cop'd and Galv , 6 to 9 66% & 5                                         |
| Cov'd and Galv , 10 to 18 709                                           |
| Cop'd and Galv., 19 to 2670&109                                         |
| Cop'd and Galv., 27 to 36721/4055                                       |
| Tinned, 6 to 14                                                         |
| Tinned, 15 to 18                                                        |
| Tinned, 27 to 36                                                        |
| Annealed Wire on Spools                                                 |
| 60&10&10@70g                                                            |
| Brass and Copper Wire on Spools                                         |
| Brass, list Feb. 26, '96                                                |
| 221 1000, 5100 2 00. 100, 30. 110. 110. 12(/)                           |
|                                                                         |
|                                                                         |
|                                                                         |

Weights, Sash-

| -                                       | 85 C 10 (Q) 85 C 10 C 5%                                                      |
|-----------------------------------------|-------------------------------------------------------------------------------|
|                                         | Wire Cloth and Netting-                                                       |
| 5:                                      | Galvanized Wire Netting30&10&5&2\$ Painted Screen Cloth per 100ft \$1.30@1.40 |
|                                         | Hardware Grade, Iron:                                                         |
| 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | 2 to 20 mesh                                                                  |
| 1                                       | 9q. ft 31/4@31/4c<br>Galv. Hardware Grade, 6 to 8 mesh<br>8q. ft, 4@41/4c     |
| 1%                                      | Wire Barb-See Trade Repor                                                     |
| N N                                     | Wire, Ro .e-See Rope, Wire.                                                   |
| 76                                      | Wrenches-                                                                     |
| 1/2                                     | Agricultural 70&10@.70&10&5\$                                                 |
| 1%                                      | Baxter's S                                                                    |
| Vá                                      | Acme                                                                          |
| 1%                                      | Alligator                                                                     |
|                                         |                                                                               |

| Copper, list Feb. 26, '96                                                            | Bemis & Call's:                                                                                                                                                                   |
|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Wire Barb—See Trade Repor<br>Wire, Ro.e—See Rope, Wire.<br>Wrenches—<br>Agricultural | Yokes, Neck— Covert Saddlery Works, Trimme 1.60&5\$\frac{1}{2}\$ Covert Saddlery Works, Neck Yoke 70\$\frac{1}{2}\$ Yokes, Ox, and Ox Bows— Fort Madison's Farmers & Freighters', |
| A amo                                                                                | 1186 1168                                                                                                                                                                         |

Sheet......lb 61/4c@7c

#### PAINTS, OILS AND COLORS.—Wholesale Prices.

| White Lead, Zinc, &c.                                                            |
|----------------------------------------------------------------------------------|
| Lead. Foreign white, in Oil 74@ 9%                                               |
| Lead, American White, in Oil:                                                    |
| Lots of 500 h or over @ 6                                                        |
| Lots less than 500 D                                                             |
| pails, add to keg price                                                          |
| lead, White, in oil, 12% to tin                                                  |
| nails, add to keg price                                                          |
| lead. White, in oil, 1 to 5 h as-                                                |
| control time add to kee price (6 14                                              |
| Lead White, Dry in bbis 514@ 534<br>Lead. American. Terms: On lots of 500        |
| Lead. American. Terms: On lots of 500                                            |
| lbs. and over, 60 days, or 2% for cash if paid in 15 days from date of invoice.  |
| Zinc, American, dry 1 3 454@ 434                                                 |
| 7inc Paris, Red Seal, dry @ 896                                                  |
| Zing Paris, Green Seal, dry @ 9%                                                 |
| Zine Antwerp Red Seal, dry @ 736                                                 |
| Zine, Antwerd, Green Seal, dry (# 394                                            |
| Zinc, V. M. French, in Poppy                                                     |
| oll, Green Seal,<br>lets of 1 ton and over                                       |
| lots less than 1 ton                                                             |
| Zine, V. M French, in Poppy                                                      |
| Oll, Red Seal,                                                                   |
| lots of 1 ton and over                                                           |
| lots of less than 1 ton @10%                                                     |
| DISCOUNTS V. M. French Zinc Dis-                                                 |
| counts to buyers of 10 bb1, lots of one or assorted grades, 1%; 25 bbis., 2%; 50 |
| bbs. 44.                                                                         |
|                                                                                  |
| Dry Colors.                                                                      |
| Black, Carbon                                                                    |
| Black, Drop, Amer 21/6 4                                                         |
| Black, Drop, Eng                                                                 |
| Black, Ivory                                                                     |

| Т   | Green, Chrome, pure18 @29                                                 |
|-----|---------------------------------------------------------------------------|
|     | Lead, Red, bbls. 14 bbls, and kegs:                                       |
|     | Lots 500 % or over @ 6                                                    |
| 1   | Lots less than 500 h @ 814                                                |
| . 1 | Litharge, bbls. 1/2 bbls. and kegs:                                       |
| i   | Lots 500 b or over                                                        |
|     | Lots less than 500 h @ 614                                                |
| 6   | Ocher, French Washed 154@ 256                                             |
|     | Ocher, Dutch Washed 43/0 5                                                |
|     | Ocher, American # ton \$10.00@15.00                                       |
| _   | Orange Mineral, English B B 956@12                                        |
| 6   | Orange Mineral, French114@1156                                            |
|     | Orange Mineral, German 914@12                                             |
| 1   | Orange Mineral. American 814@ 814                                         |
|     | Red, Indian, English 4166 816                                             |
|     | Red Indian American 3 @ 317                                               |
| į.  | Red, Turkey, English                                                      |
| É   | Red, Tuscan, English 7 @10                                                |
| í   | Red, Venetian, Amer., \$ 100 m. 80@1.10                                   |
| į   | Red Venetian, English. # B 1,80@2.10                                      |
|     | Sienna, Italian, Burnt and                                                |
|     | Powdered 1 10 31400 914                                                   |
|     | Sienna, Ital., Raw, Powd 31/9 71/2                                        |
| ĺ   | Sienna, Ital., Raw, Powd 31/3 71/2<br>Sienna, American, Raw 11/4 2        |
|     | Sienna, American, Burnt and                                               |
|     | Powdered                                                                  |
|     | Talc, French # 100 h \$1.25 @6.00                                         |
| •   | Talc, American                                                            |
| ŀ   | Terra Alba, French, 7 100 b 95 @1.00                                      |
| -   | Terra Alba, English                                                       |
|     | Terra Alba, American No. 165 @70                                          |
| ,   | Terra Alba, American No. 245 @50                                          |
|     | Umber, Turkey, Bnt. & Pow. # 3 234 334 Umber, Turkey, Raw & Powd. 234 334 |
|     | Umber, Turkey, Raw & Powd. 2% 3%                                          |
|     | Umber, Bnt. Amer 114@ 2                                                   |
|     | Umber, Raw, Amer 116@ 2                                                   |
|     | Yellow, Chrome101/4@25                                                    |
|     | Vermilion, American Lead10 @25                                            |
|     | Vermilion, Quicksilver, bulk @72                                          |
|     | Vermilion, Quicksilver, bags @73                                          |
|     | Vermilion, English, Import80 @95                                          |
|     | Vermilion Chinese88 @95                                                   |
|     | Colors in Oil.                                                            |
|     | Black, Lampblack 10 @14                                                   |
| 9   | Diack, Lampulack 10 (614                                                  |
| 1   | Blue, Chinese                                                             |
| 9   | Blue, Prussian32 @35                                                      |

| Vermilion Chinese 88 | @95                      |  |
|----------------------|--------------------------|--|
| Colors in Oil.       |                          |  |
| Black, Lampblack     | @14<br>@40<br>@38<br>@16 |  |
|                      |                          |  |

| _ |                                                                                                                                                                                                                                                                                                            |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | Brown, Vandyke                                                                                                                                                                                                                                                                                             |
| ) | Miscellaneous.                                                                                                                                                                                                                                                                                             |
|   | Barytes, Foreign, # ton \$19.00 ±21.00 Barytes, Amer. floated 19.00 ±30.00 Barytes, Crude 9.00 ±30.00 Chalk, in bulk # ton 2.15 ± 2.25 China Clay, English # ton 12.00 ± 17.50 Cobalt, Oxide # 100 ± 266 ± .52 Whiting, Common. # 100 ± 426 ± .52 Whiting, Gilders 54 ± .64 Whiting, extra Gilders58 ± .68 |
|   | Putty.                                                                                                                                                                                                                                                                                                     |
| - | In bulk                                                                                                                                                                                                                                                                                                    |
|   |                                                                                                                                                                                                                                                                                                            |
|   | In Southern bbls                                                                                                                                                                                                                                                                                           |
|   | Glue.                                                                                                                                                                                                                                                                                                      |
|   | Low Grade     ₩ 313     3154       Cabine6     134631615       Medium White     14463165       Extra White     18     623       French     12     625       Irish     1346366                                                                                                                              |
|   |                                                                                                                                                                                                                                                                                                            |

| Irish          |       |        | 1994@10 |
|----------------|-------|--------|---------|
| Animal,        | Fish  | and    | Vege-   |
|                | ableO |        |         |
| Linseed, City, | raw   | F gal. | 67 @69  |

| Linseed, City, boiled          | @71   |
|--------------------------------|-------|
| Linseed. State and West'n, raw | 1987  |
| Linseed, raw Calcutta seed     | @76   |
| Lard, Prime 36                 | @58   |
| Lard, Extra No. 1              | @50   |
| Lard. No. 141                  | @43   |
| Cotton-seed, Crude33           | @34   |
| Lard. No. 1                    |       |
| prime                          | 6@37  |
| off grades36                   | @3614 |
| Sperm, Crude                   | (6.4  |
| Sperm, Natural Spring.         | ā     |
| Sperm, Bleached Spring         |       |
| Sperm, Natural Winter57        | G .   |
| Sperm, Bleached Winter62       |       |
| Whale, Crude 38                |       |
| Whale, Crude                   | 047   |
| Whale, Bleached Winter         | @ 19  |
| Menhaden, Crude, Sound 25      | 6.    |
| Menhaden, Light Strained 29    | @30   |
| Menhaden, Bleached Winter35    | @     |
| Menhaden, Extra Bleached       | @37   |
| Tallow, prime53                | 354   |
| Cocoanut, Ceylon 5%            | A A   |
| Cocoanut, Cochin               | @ B16 |
| Cod, Domestic                  | @33   |
| Cod, Newfoundland36            | @38   |
| Red Elaine34                   | @36   |
| Red Saponified 3 15 5          | @     |
| Olive, Italian, bbls 57        | @80   |
| Neatsfoot, prime48             | @50   |
| Palm, prime, Lagos P 5 5%      | 10 0  |
|                                |       |

# Black, 20 gravity, 25@30 cold test. # gal. 93(@10). Black, 29 gravity, 15 cold test. 103(@11). Black, summer 9 91:9 9 9 Cylinder, light filtered. 143(@17). Cylinder, dark filtered. 113(@16). Paraffine, 903-907 gravity. 134(@15). Paraffine, 903 gravity. 134(@15). Paraffine, 883 gravity. 124(@15). In small lots 140 advance.

Mineral Oils.

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| IRON AND STEEL-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Sheet and Bolt-   Common High Brass.   in.   in                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | . in in in in in                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Bar Iron from Store-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | January 19, 1900, Prices, in cents per pound.  Common High Brass. in. in. in. in. in. in. in. in. in. in                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 30 32 34 36 39 40<br>82 34 36 38 10       |
| Common Iron: Duty, Round, 0.6¢ \$ 3; Square, 0.8¢ \$ 3<br>1 to 1% in. round and square<br>1% to 4 in. x % to 1 in                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Sheet so x 60. To No. 20, inclusive89 .49                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Sheet 30 x 60.  To No. 20, inclusive 89 .42 Nos. 21, 22, 23 and 24, 40 .43 Nos. 25 and 2641 .44 Nos. 27 and 2842 .45                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | .47 .51 .56 .61 68<br>.48 .59 .57 .63 .71 |
| 1 to 1% in. round and square                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | u u u u u u u u u u u u u u u u u u u                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 80 cents                                  |
| Rods—% and 11-16 round and square. # B 2.20@2.30g<br>Angles:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Special prices not less than Add 164 \$ 3 additional for than Nos. 33 to 35 including.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | r each number thinner                     |
| \$ in. x % in. and larger                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 수 내 내 내 내 내 내 내 내 내 내 내 내 내 내 내 내 내 내 내                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 204                                       |
| 1% to 3 in. x % in                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Mor los Not lo                                                                                                                                                                                                                                                                                                                                       | lst February 28, 1896,                    |
| 1 to 1¼ in. x 3·16 in                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Brown & Sharpe's gauge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Com. Low bronze                           |
| X 36 in 2.85¢                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ins. Ins. Ins.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | brass. brass. and copper                  |
| Angles: Cis % h  8 in. x is in. and larger. 2,30 s  8 to 8 in. x is 10 in. 2,30 s  8 to 8 in. x is 10 in. 2,30 s  1 is to 8 in. x is 10 in. 2,30 s  1 is to 8 in. x is 10 in. 2,30 s  1 is 1 is 1 in. x is 10 in. 2,40 s  1 to 1 is 1 is 10 in. 2,50 s  1 to 1 is 1 is 10 in. 2,50 s  1 to 1 is 1 in. 2,50 s  1 x is in. 3,50 s  1 x is in. 4,00 s                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 30 72 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1                                                                                                                                                                                                                                                                                                                                             |                                           |
| 1 in 2.70s 14 in 2.60e 15 in, and larger 2.50e                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 30 72 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1/2 20 1                                                                                                                                                                                                                                                                                                                                             |                                           |
| 1% in, and larger                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 96 06 99 20 \( \hat{6}\) 30 \( \hat{7}\) 30 \(                                                                                                                                                                                                                                                                                                                                       |                                           |
| Channels, 3 in. and larger                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 48 73 20 3 20 3 21 3 22 3 24 3 27 4 3 27 4 30 4 No. 23 No. 24                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 28 .32 .36<br>30 .34 .39<br>32 .36 .40    |
| 134 in, and larger. 250e  Beams. 2.75e  Channels, 3 in. and larger. 2.75e  Bands—14 to 6 x 3-16 to No. 5. 2.40e  Burden's Best' Iron, base price. 2 b 3.40e  Purden's "H. B. & S. Iron, base  price. 2 b 3.40e  Purden's "H. B. & S. Iron, base                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 43                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 39 .36 .40<br>35 .39 .43                  |
| Purden's "H. B. & S. Iron, base         P B 3.40¢           price.         P B 3.60¢           "Ulster"         P B 3.60¢           Rorway Bars.         4¼645¢           Morway Sbapes.         4¼65¢                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 60 72 20 1/3 21 1/3 21 1/4 23 1/4 31 1/4 No. 28                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 38 .42 .46 .5145 .49 .54                  |
| Norway Shapes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 60 110 95 20\(\frac{1}{2}\) 25\(\frac{1}{2}\) 25\(\frac{1}2\) 25\(\frac{1}2\) 25\(\frac{1}2\) 25\(\frac{1}2\) 25\(\frac{1}2\) 25\(\frac{1}2\) 25\(\frac{1}2\                                                                                                                                                                                                                                                                                                                                       | 45 .49 .54<br>48 .59 .68<br>51 .55 .67    |
| Merchant Steel from Store-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 78 144 96 20 2 22 2 25 30 2 NO 32                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                           |
| Toe Calk, Tire and Sleigh Shoe. 3.00(a3 2):  Best Cast Steel, base price is small lots. 8  Best Cast Steel Machinery, base price in                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 78                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 64 .68 .95<br>70 .74 1.30<br>76 .80 1.50  |
| Best Cast Steel, base price in small lots 8 ¢                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | wider } 144 24 \ 25 \ 25 \ 27 \ No. 36 No. 37 No. 37 No. 38                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1.00 1.04 1.70                            |
| BIII IU-9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Bolt Copper, % inch diameter and over, % \$2044                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1 2 00 1 2 00 1 8 95                      |
| Soft Steel Sheets-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Bolt Copper, % fach diameter and over, \( \Pi \) \( \Display \) \(                                                                                                                                                                                                                                                                                                                                       |                                           |
| M inch.         2.30¢         No. 14         2.80¢           \$-16 inch.         2.55¢         No. 16         2.90¢           No. 8         2.50¢         No. 18         3.0¢           No. 10         2.60¢         No. 20         3.30¢           No. 12         2.70¢         No. 22         3.40¢           No. 22         3.50¢         3.50¢                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Bolt Copper, 36 toch diameter and over, \$\Psi\$ \$\ \) \$\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | r 16, 96.                                 |
| No. 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | aquare foot, 26 % D over the foregoing prices.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | onze-                                     |
| Sheet Iron from Store.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | All Pollshed Copper, 20 in, wide and under, 14 \$\Pm\$ advance over the price for Co'd Roiled Copper. All Pollshed Copper, over 20 in, wide, 24 \$\Pm\$ advance over the price for Cold Roiled Copper. Inished Piston Rods, % to 2%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | s, % t > 3 in. diameter, #                |
| Black. Common R. G. Cleaned                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | over the price for Cold Rolled Copper.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 214                                       |
| Amontos Amontos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Planished Copper—  16 # B more than Polished Copper.  Other sizes and extreme leng  Speite                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                           |
| Nos. 10 to 16                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Copper Bottoms, Pits and Flats- Western Spelter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Ples. 14 W h                              |
| Nos. 25 and 26                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 14 oz. to square foot and heavier, P b                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 10 oz. and up to 12 cz., W B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 94 P B.                                   |
| Russia, Planished, &c.  Genuine Russia, according to assort-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Circles Pas thad o in. diameter, 25 # Dadditon st.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1.                                        |
| ment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Copper Wire— Sheets, 254 % 3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                           |
| Galvanized.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Hard and Soft Drawn—B. & S. Gauge.  List March 2, 1800.  American Pig.  American Pig.  Pipe (full lengths), subject to                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | dlecount 20s                              |
| Nos. 10 to 16.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Nos0000 to 8 9 and 10 11 and 19 Pipe cut lengths), subject to die                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | discount 20%                              |
| Nos. 22 to 24                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Nos 13 14 15 Block Tin Pipe, subject to dis Sheet (full rolls) subject to dis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | sount 2016                                |
| No. 28                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Nos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | scount 20% 761                            |
| No. 30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Seamless Brass Tubes-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | or.                                       |
| Foreign Steel from Store-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Ordered. Prices of Solder Indicated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | by private brand vary                     |
| Foreign Steel from Store                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Feb. 6, 1890. Net. Outside Diameter.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | n v-                                      |
| Beat Double Shear Bast Double Shear                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | W.G. W.G. 16 5-16 16 19-16 16 16 16 16 12 134 1 134 Duty, 146                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ₩ lb.                                     |
| Blister, 1st quality                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 4-II 3-9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | B104                                      |
| 2d quality. 9 5 8 3d quality. 9 5 8 3d quality. 9 5 15 2d quality. 9 5 14 3d quality. 9 5 14 3d quality. 9 5 14 3m quality. 9 5 15 3m quality. 9 5 75 4m quality. 9 75 4m qu | 13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | um-                                       |
| 2d quality 9 14 ¢ 8d quality 9 12 ¢                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | B. Sheets, Mars and Roll<br>B.            |
| R. Mushet's "Special" Annealed 75 # 5 75                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 17 35 44 44 39 35 34 33 39 31 9 07 26 13 14 14 14 15 15 15 15 15 15 15 15 15 15 15 15 15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | over 99% pure), in ingots                 |
| Hobson's Choice XX Extra Best 9 35  Jessop Self Hardening 9 45                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ## 17 69 47 43 40 37 35 35 34 33 39 99 29 8mall lots                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 10 Pro 0202 00 % 2000                     |
| Beamans' "Nelson" Steel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 99 91 7 56 48 44 42 41 40 39 38 37 37 36 ingots for remeiting: 93 92 76 61 50 46 44 43 42 41 40 39 39 39 39 Small lots                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | W 10 344                                  |
| METALS-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 25 24 86 72 56 52 49 47 46 45 43 43 44 45 Aluminum Sheet, R. & S. gaus                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 10. 50 % or more.                         |
| Duty.—Pigs, Bars and Block. Free. Per 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Copper Proper and Cilding Tube 24 % additional And including                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 14-in 24-in 24-in                         |
| Banca, Pigs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Iron Pipe Sizes—Brass Nos. 13 to 19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | \$0.42 \$0.44 \$0.47                      |
| Straits in Bars                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 14 14 14 14 1 14 14 2 24 3 34 4 44 5 6 inch No. 20. 36 32 39 37 31 21 21 21 31 31 32 38 33 2 37 38 \$\$\frac{1}{2}\$\$ 38 \$\frac{1}{2}\$\$ 39 \$\ |                                           |
| American Charcoal Plates.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Brazed Brass Tubing, No. 26                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                           |
| Calland Grade:<br>IC, 14 x 20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | (To No. 19, inclusive.) Feb. 20 1896 Brown & Sharpe's gauge standard. Por 78. No. 27. No. 28.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 48 .57 .64                                |
| Melyn Grade:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Per b. No. 20 No. 30 No. 30 Note.—Lots of less than 50 n                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                           |
| 1X, 14 x 20 9.00  Melyn Grade:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 36 Aluminum Wire, B. & S. Gau                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                           |
| Ilaway Grade:<br>IC, 14 x 90                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0. 17 3 504                               |
| American Coke Plates-Bessemer-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 3-16 " 3-16" 1.00 No 19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | To. 19                                    |
| IC. 14 x 20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Piain Round Tube, ¾in. up to ¾ in                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | To. \$1 \$ 5 854                          |
| American Terne Plates-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Over 3 inch to 3 inch, inclusive                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | a Duta to Som Vace                        |
| IC, 20 x 28. \$10.50<br>IX, 20 x 28. 12.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Over 3'4 inch Bronze and Copper, advance on Brass List, 3 centa. Discount from list s  Roll and Sheet Brass  Light and rinned Copper Light and rinned Copper Light Brass Light Brass Light Brass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 21246                                     |
| Tin Boiler Plates, American-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Roll and Sheet Brass—  (Brown & Sharps Standard Gauge.)  Light Brass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                           |
| IXX, 14 x 26                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | (Brown & Sharps Standard Gauge.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                           |
| Copper-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Wider than   2   18   14   16   18   20   22   24   No. 1 Power or                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                           |
| DUTY: Pig. Bar and Ingot and Old Copper free Manufactured, 3144 \$ 1b.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | and including 12 14 16 18 20 22 24 26 No. 2 rowtes.  To No. 20, inclusive. 22 23 25 27 29 31 33 36 7in Plate scrap iron.  Nos. 21, 22, 23 and 24 22 24 96 28 30 32 34 37 Heavy Cast Scrap.  Nos. 25 and 26 23 24 46 27 29 31 33 35 38 Stove Plate Scrap.  Nos. 27 and 28 23 25 28 35 32 32 34 36 39 Sure Plate Scrap.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ross ton \$10 00 3 11.00                  |
| Ingot— Lake                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | To No. 20, inclusive. 29 23 25 27 29 31 33 36 WroughtScrap Iron                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | gross ton \$7.00 = 7.25                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Nos. 97 and 28 23   25   28   30   32   34   36   39   Burnt Iron                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | # KLO33 20B #4'75 " 0'56                  |



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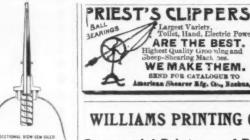
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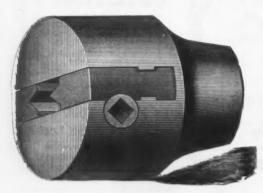
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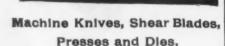
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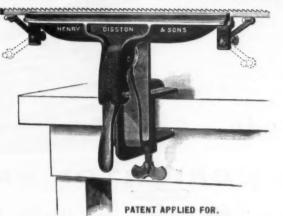
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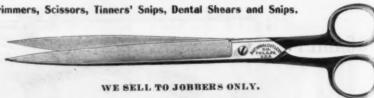
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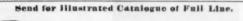


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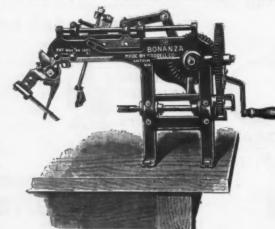
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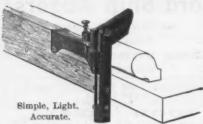
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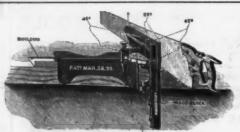
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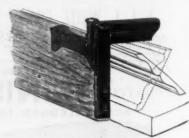
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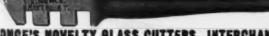


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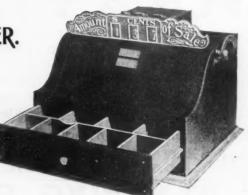
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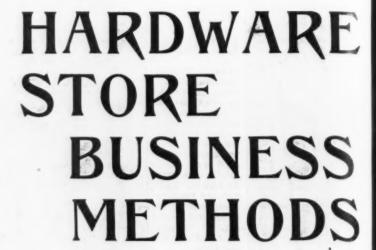
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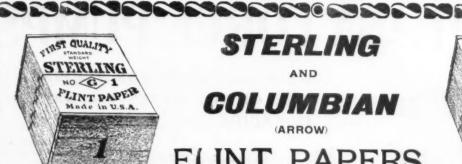
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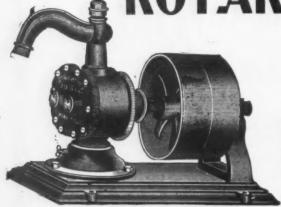
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|                                     | C   | )    |      |            |      |  |  |  |  |  |
|-------------------------------------|-----|------|------|------------|------|--|--|--|--|--|
| BELTING                             |     |      |      |            |      |  |  |  |  |  |
| ARTICLE 100 Sector Sector Cost Link |     |      |      |            |      |  |  |  |  |  |
|                                     | I.  | .07  | 061  | m.         | -14  |  |  |  |  |  |
|                                     | 15  | .091 | 085  | <b>才</b> 点 | .19  |  |  |  |  |  |
| Leather                             | 14. | 12   | 105  | 74         | .24  |  |  |  |  |  |
| Statements                          | 14" | 145  | 13   | 103        | .29  |  |  |  |  |  |
| hist of                             | 2.  | 17   | 151  | 114        | .34  |  |  |  |  |  |
| May 15 4 99                         | 24  | 195  | 175  | 18         | .39  |  |  |  |  |  |
| Manufacturers                       | 24  | 215  | 191  | 17.5       | .43  |  |  |  |  |  |
| Association                         | 24. | 24   | 2.2  | 4.14.3     | .41  |  |  |  |  |  |
| HART WELLER                         | 3.  | 26   | 24   | ACK.       | .51  |  |  |  |  |  |
| HOYT                                | 34  | 311  | 21   | KK         | : 63 |  |  |  |  |  |
| Rea Short Las                       | 4.  | 36   | 33   | 1055       | .72  |  |  |  |  |  |
| Discount                            | 45  | .41  | 37   | 443        | .81  |  |  |  |  |  |
| Xx+H .                              | 50  | 46   | 42   | 174        | .91  |  |  |  |  |  |
| - Selveria                          | 52  | 50   | 45   | 1K         | 1.01 |  |  |  |  |  |
| Doubles                             | 6-  | 55   | .50  | 3xx        | 1.11 |  |  |  |  |  |
| Laulde Inice                        | 7"  | 65   | 59   | ZRE        | 1.30 |  |  |  |  |  |
| of Single                           | 8.  | 74   | 67   | axt.       | 1.48 |  |  |  |  |  |
| -                                   | 9.  | .83  | .75  | Kit        | 1.67 |  |  |  |  |  |
|                                     | 10  | .93  | 84   | 7x         | 1.95 |  |  |  |  |  |
|                                     | 12  | 1.11 | 1.00 | Mai        | 2 2  |  |  |  |  |  |
|                                     | 14  | 1.30 | 1.17 | THE        | 250  |  |  |  |  |  |
|                                     |     |      |      |            |      |  |  |  |  |  |
|                                     |     |      |      |            |      |  |  |  |  |  |
|                                     |     |      |      |            |      |  |  |  |  |  |
|                                     | 1   | 1    | 1    |            | 10   |  |  |  |  |  |

This cut shows, in reduced size, one of the uses for which Price Card No. 100 may be employed. The word Belting is cut from the Price Card Pasters.

|      | es.                  |                                                                               |                                                                                                                                                                       |                                                                                                                                                                                                     |                                                                                                                                                                                              |                                                                                                                                                                                                     |                                                                                                                                                                                                     |                                                                                                                                                                                                           | eacl                                                                                                                                                                                                                                                 |
|------|----------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4 x  | 8                    | vith Column Head                                                              | ings                                                                                                                                                                  | *******                                                                                                                                                                                             |                                                                                                                                                                                              |                                                                                                                                                                                                     |                                                                                                                                                                                                     |                                                                                                                                                                                                           | \$0.1                                                                                                                                                                                                                                                |
| 4 X  | 16                   | rith Column Head                                                              | ings                                                                                                                                                                  | *******                                                                                                                                                                                             |                                                                                                                                                                                              |                                                                                                                                                                                                     |                                                                                                                                                                                                     |                                                                                                                                                                                                           | . 5                                                                                                                                                                                                                                                  |
| 4 x  | 18                   | vith Column Head                                                              | ings                                                                                                                                                                  |                                                                                                                                                                                                     |                                                                                                                                                                                              |                                                                                                                                                                                                     |                                                                                                                                                                                                     |                                                                                                                                                                                                           | - 9                                                                                                                                                                                                                                                  |
| 3 x  | 7                    | vith Column Head                                                              | ings                                                                                                                                                                  |                                                                                                                                                                                                     |                                                                                                                                                                                              |                                                                                                                                                                                                     |                                                                                                                                                                                                     |                                                                                                                                                                                                           | .1                                                                                                                                                                                                                                                   |
| 7 x  | 4                    | rith Column Head                                                              | ings                                                                                                                                                                  |                                                                                                                                                                                                     |                                                                                                                                                                                              |                                                                                                                                                                                                     |                                                                                                                                                                                                     |                                                                                                                                                                                                           |                                                                                                                                                                                                                                                      |
| ll x | - 8                  | vithout Headings.                                                             |                                                                                                                                                                       |                                                                                                                                                                                                     |                                                                                                                                                                                              |                                                                                                                                                                                                     |                                                                                                                                                                                                     |                                                                                                                                                                                                           | . 2                                                                                                                                                                                                                                                  |
| 8 x  | 12                   | vith Column Head                                                              | ings                                                                                                                                                                  |                                                                                                                                                                                                     |                                                                                                                                                                                              |                                                                                                                                                                                                     |                                                                                                                                                                                                     |                                                                                                                                                                                                           | .8                                                                                                                                                                                                                                                   |
| 5 X  | 4                    | with Column Head                                                              | ings                                                                                                                                                                  |                                                                                                                                                                                                     |                                                                                                                                                                                              |                                                                                                                                                                                                     |                                                                                                                                                                                                     |                                                                                                                                                                                                           | ,1                                                                                                                                                                                                                                                   |
| 10 x | 12                   | without Headings                                                              |                                                                                                                                                                       |                                                                                                                                                                                                     |                                                                                                                                                                                              |                                                                                                                                                                                                     |                                                                                                                                                                                                     |                                                                                                                                                                                                           | . 3                                                                                                                                                                                                                                                  |
|      | 4 x x 7 x 11 x x 5 x | 4 x 16 v<br>4 x 18 v<br>3 x 7 v<br>7 x 4 v<br>11 x 8 v<br>8 x 12 v<br>5 x 4 v | 4 x 16 with Column Head 4 x 18 with Column Head 5 x 7 with Column Head 7 x 4 with Column Head 11 x 8 without Headings, 8 x 12 with Column Head 5 x 4 with Column Head | 4 x 16 with Column Headings. 4 x 18 with Column Headings. 3 x 7 with Column Headings. 7 x 4 with Column Headings. 11 x 8 without Headings. 8 x 12 with Column Headings. 5 x 4 with Column Headings. | 4 x 16 with Column Headings 4 x 18 with Column Headings 3 x 7 with Column Headings 7 x 4 with Column Headings 11 x 8 without Headings 8 x 12 with Column Headings 5 x 4 with Column Headings | 4 x 16 with Column Headings. 4 x 18 with Column Headings. 3 x 7 with Column Headings. 7 x 4 with Column Headings. 11 x 8 without Headings. 8 x 12 with Column Headings. 5 x 4 with Column Headings. | 4 x 16 with Column Headings. 4 x 18 with Column Headings. 3 x 7 with Column Headings. 7 x 4 with Column Headings. 11 x 8 without Headings. 8 x 12 with Column Headings. 5 x 4 with Column Headings. | 4 x 16 with Column Headings.  4 x 18 with Column Headings.  3 x 7 with Column Headings.  7 x 4 with Column Headings.  11 x 8 without Headings.  8 x 12 with Column Headings.  5 x 4 with Column Headings. | 4 x 8 with Column Headings 4 x 16 with Column Headings 4 x 18 with Column Headings 3 x 7 with Column Headings 7 x 4 with Column Headings 11 x 8 without Headings 8 x 12 with Column Headings 5 x 4 with Column Headings 10 x 12 with Column Headings |

All these Price Cards are furnished with blank space at top for name of article, for which The Iron Age Hardware Price Card Pasters are provided.

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REFRIGERATORS
REGISTERS
RIDDLES
RINGERS
RINGS
RINGS
RINGS
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Full Size Pasters.

|         | _      | -      |      |       |     |
|---------|--------|--------|------|-------|-----|
|         |        | IVE    | TS   |       |     |
| ARTICLE | No. or | Potest | -    | Cost  | M   |
|         |        |        | ů.   |       |     |
| Date .  | 0      | - 1    |      |       |     |
| Tinners | N m    |        |      | -     | 20  |
| Iron    | 10 .   | 13     | 11   | 115   | 23  |
| BLOCK   | 12: 4  | 14     | .12  | Th    | 24  |
| 1000    | 14 .   | 15     | .13  | TXE   | 26  |
| PROS    | 116    | 16     | .14  | 185   | 27  |
| -       | 14.    | 17     | 15   | 105   | 29  |
| List.   | 14.    | 19     | .17  | 11%   | 33  |
| May 10" | 14.    | 21     | 19   | 175   | 37  |
| 1894    | 2.     | .23    | 21   | AXL   | 42  |
|         | 24-    | 30     | 28   | Ho.   | 55  |
|         | 3 .    | 33     | 30   | 44    | 60  |
| Cost    | 4 .    | .42    | 38   | 1Kt   | 76  |
| XX 70   | 5.     | 50     | 45   | LI    | 90  |
| From    | 6 .    | .60    | 54   | 74    | 08  |
| List    | 7 "    | 70     | 63   | DE TI | 26  |
|         | 8 .    | .80    | 72   | 475   | 44  |
|         | 9.     | .85    | 77   | KI    | 53  |
|         | 10 .   | 95     | .88. | 7x1   | 25  |
|         | 12.    | 1.10   | 100  | 17    | 198 |

This reduced size cut shows a method of using Card No. 103 for Rivets, the name of the article being clipped from the Price Card Pasters

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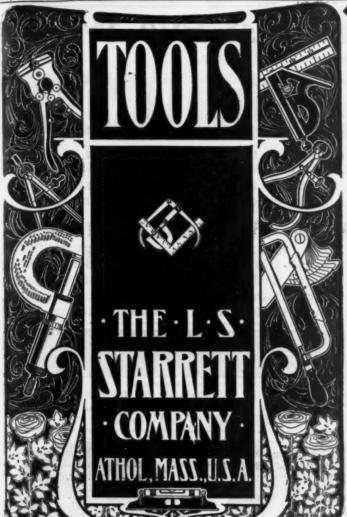
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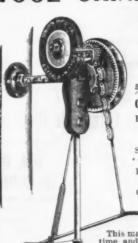
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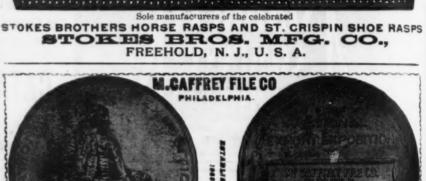
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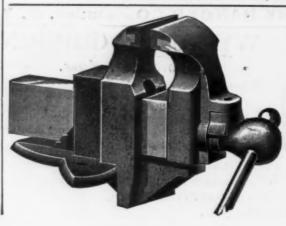


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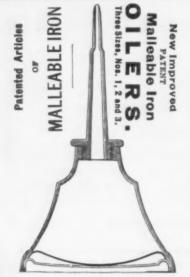
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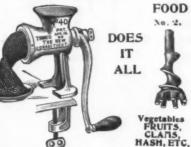
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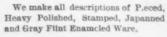
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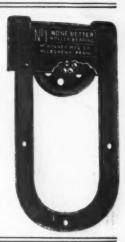
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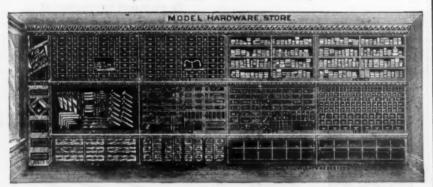
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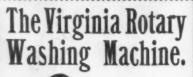
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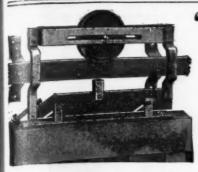
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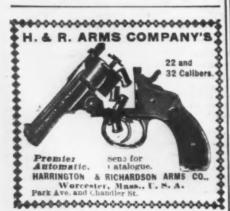


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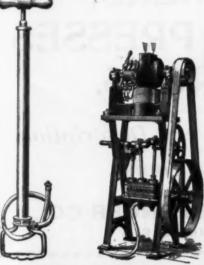
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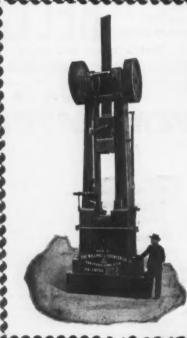
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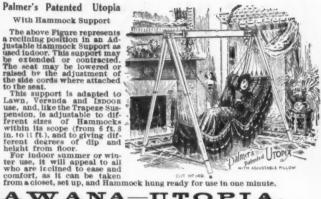
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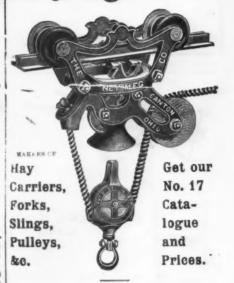


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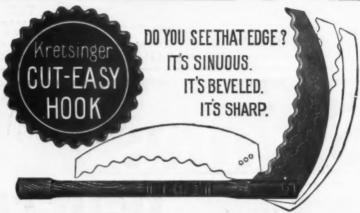
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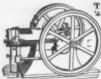


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                                                                                                                                                                                                  | Hubbell, Harvey                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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| perican Emery Wheel Wks. 57                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Bridgeport Mfg. Co109                               | Crescent Phosphorized Metal                   | Frank-Kneeland Mach. Co 83                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Huber, S. V. & Co<br>Hudson Parer Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| nerican Hardware Mfg. Co 95                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Bridgeport Safety Emery                             | Co 8                                          | Franklin, H. H. Mfg. Co 94                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Hull & Hoyt (o                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| nerican Iron & Steel Mfg.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Wheel Co 56                                         | Crescent Mfg. Co 18                           | Frick, H. C. Coke Co 96                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Humphryes Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 30 36                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Briggs, Marvin 83                                   | Crescent Steel Co 29                          | Frost Wire Fence Co 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Hungerford, U. T. Brass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| nerican Mfg. Co6&96                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Bristol Co 1                                        | Cresson, Geo. V. Co 48                        | Fulton Iron & Engine Works. 51                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Copper Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| nerican Metal Co 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Broderick & Bascom Rope Co. 7                       | Cronk Hanger Co117                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Hunt, C. W. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| nerican Nickeloid Co 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Brohard Co                                          | Crosby Steam Gage & Valve                     | G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Hurlbut Rogers Mach. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| nerican Pig Iron Storage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Brown & Co., Inc 97                                 | Cross & Speirs Machine Co 80                  | Gardner Bros 35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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| Warrant Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Brown, E. E. & Co                                   | Cunliffe, R. M                                | Garland Chain Co104                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| nerican Railway Supply Co. 94                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Brown Hoisting & Conveying                          | Curtis & Curtis62                             | Garrison, A., Foundry Co 83                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Ideal Machine Works                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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| nerican Screw Co111                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Mch. Co 52                                          | Cushman Chuck Co60                            | Garry Iron & Steel Roofing Co 9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Ideal Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| nerican Shearer Mfg. Co 97                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Brown, R. H. & Co 98                                |                                               | Garvin Machine Co 70                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Illinois Malleable Iron Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| nerican Sheet Steel Co1&22                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Brown & Sharpe Mfg. Co 82                           | D                                             | Gem Mfg. Co 97                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Illinois Screw Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| nerican Steel Hoop Co 21                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Buck Bros108                                        | Dallett, Thos. H. & Co 75                     | General Supply Co 42                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Illinois Steel Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| nerican Steel Scraper Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Buck, Chas103                                       | Dame, Stoddard & Co129                        | General Supply Co 59 Geometric Drill Co 61                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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| 95&136                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Buffalo Emery Wheel Co 54                           | Danielson Mch. & Tool Co 85                   | Gerlach, Peter & Co 60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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| nerican Steel & Wire Co 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Buffalo Forge Co95&146                              | D'Amour & Littledale Mch. Co 66               | Gilbert & Bennett Mfg. Co 12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Indianapolis Drop Forgin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| nerican Tin Plate Co 22                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Buhl Malleable Co                                   | Darby, Edw. & Sons                            | Gilmour, J                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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| nerican Tool Chest Co108                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Burden Iron Co                                      | Dart, E. M. Mfg. Co                           | Gleason-Peters Air Pump Co.129                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | International Silver Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| nerican Tool Works Co 74 nes Sword Co 49                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Burditt & Williams135                               | Davis & Buxton Stamping Co. 129               | Gleason Tool Co146                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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| sonia Brass & Copper Co 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Burke, P. F                                         | Davol, John & Sons                            | Goepel & Raegener 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Ironaides Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| cade File Works                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Burnham, Geo. Co 69                                 | Dawson, A. L. & Co 86                         | Goodell Co104                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Isaac Joseph Iron Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| cade Malleable Iron Co 84                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Butterfield & Co 65                                 | Defiance Mch. Wks 64                          | Goodell-Pratt Co107                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Ives, H. B. & Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| cade Mfg.Co121                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Byram & Co 27                                       | DeKalb Fence Co 11                            | Goodwin & Kintz Co 95                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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| mstrong Bros. Tool Co 64                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | C                                                   | Deming Co114                                  | Gould & Eberhardt 66                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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| mstrong Mfg. Co 58                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                     | Denman & Davis 28                             | Graham, John H. & Co113                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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| mstrong, R. S. & Bro 89                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Cabeen & Co 81                                      | Detrick & Harvey Machine Co 66                | Grand Crossing Tack Co 16<br>Grand Rapids Hardware Co 127                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Jackson Flue Scraper Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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| her, A 88                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Cahall Sales Dept1&96                               | Diamond Drill & Mch. Co 88                    | Gray, Robt. J                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Janney, Steinmetz & Co<br>Jarecki Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| shland Steel Co 24                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Caldwell Mfg. Co 98                                 | Diamond Machine Co 57                         | Green, A. H                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Jefferson Iron Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| shton Valve Co 43                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | California Wire Works 53                            | Diamond Tack & Nail Wks 19<br>Dickinson, T. L | Greiner, F 89                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Jeffrey Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| sphalt Ready Rfg. Co 94<br>thol Machine Co119                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Canfield, H.O                                       | Dienelt & Elsenhardt                          | Griffin Mfg. Co108                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Jenckes, E. Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| thol Pump Co119                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Carborundum Co 57                                   | Dillon-Griswold Wire Co 11                    | Griswold Wire Co 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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| tkins, E. C. & Co100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Card, S. W. Mfg. Co                                 | Dimmick, J. K. & Co                           | Gunn & Hannah 99                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Jenkins Iron & Tool Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| tlas Bolt & Screw Co 44                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                     | Disston, Henry & Son161                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Jenkinson, R. C. & Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| tlas Mfg.Co106&145                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                     | Divine Bros. Co 54                            | н                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Jennings, C. E. & Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| ultman Co 49                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Cary Mfg. Co 97                                     | Dixon, Jos. Crucible Co 49                    | Hagen & Reid102                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Jennings, Russell Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| utomatic Machine Co 70                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                     | Doan, J. B. & Co 85                           | Haines Gauge Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Jessop, Wm. & Sons                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| very Stamping Co95&105                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                     |                                               | Hale Bros102                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Johnson, I. H., Jr., & Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                     | Dodge Machine Screw Co102                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Johnson Twon Awns & Crol                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             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| _                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Central Hardware Co106                              | Dodge Mfg. Co 51                              | Halk & Naumann 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| В                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Central Hardware Co106<br>Chambers Bros. Co         | Dodge Mfg. Co                                 | Halk & Naumann 8 Hall, Thomas113                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Works                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| B<br>abcock & Wilcox Co 46                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Central Hardware Co106<br>Chambers Bros. Co         | Dodge Mfg. Co                                 | Halk & Naumann                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Works                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Babcock & Wilcox Co 46                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Central Hardware Co                                 | Dodge Mfg. Co                                 | Halk & Naumann       3         Hall, Thomas       113         Hall's, Samuel, Sons       14         Hamlin, Geo. R       7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Works                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Babcock & Wilcox Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Central Hardware Co                                 | Dodge Mfg. Co                                 | Halk & Naumann       3         Hall, Thomas       113         Hall's, Samuel, Sons       14         Hamlin, Geo. R       7         Hammer & Co       120                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Works.  Johnson, Wm. C. & Sons Meh Co.  Jones, B. M. & Co.  Jones, Jesse Paper Box Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Central Hardware Co                                 | Dodge Mfg. Co                                 | Halk & Naumann       3         Hall, Thomas       113         Hall's, Samuel, Sons       14         Hamlin, Geo. R       7         Hammer & Co       120         Hannan & Finton       87                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Works Johnson, Wm. C. & Sons Met Co Jones, B. M. & Co Jones, Jesse Paper Box Co Jones & Dommersnas                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Central Hardware Co                                 | Dodge Mfg. Co                                 | Halk & Naumann. 3 Hall, Thomas. 113 Hall's, Samuel, Sons. 14 Hamlin, Geo. R. 7 Hammer & Co. 120 Hannan & Finton. 87 Harrington, E. Son & Co. 52&50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Works. Johnson, Wm. C. & Sons Met Co. Jones, B. M. & Co. Jones, Jesse Paper Box Co. Jones & Dommersnas. Jones & Lambon Machine Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Central Hardware Co                                 | Dodge Mfg. Co                                 | Halk & Naumann                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Works. Johnson, Wm. C. & Sons Met Co. Jones, B. M. & Co. Jones, Jesse Paper Box Co. Jones & Dommersnas. Jones & Lambon Machine Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Bibbook & Wilcox Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Central Hardware Co                                 | Dodge Mfg. Co                                 | Halk & Naumann                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Works. Johnson, Wm. C. & Sons Meh Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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Co                                 | Halk & Naumann                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Works. Johnson, Wm. C. & Sons Mch Co. Jones, B. M. & Co. Jones, Jesse Paper Box Co. Jones & Dommersnas. Jones & Lamson Machine Co Jones & Laughlins, Ltd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Central Hardware Co                                 | Dodge Mfg. Co                                 | Halk & Naumann   3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Works. Johnson, Wm. C. & Sons Meb Co. Jones, B. M. & Co. Jones, Jesse Paper Box Co. Jones & Dommersnas. Jones & Lamson Machine Co Jones & Laughlins, Ltd.  K Kay, G. Ashton.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Central Hardware Co                                 | Dodge Mfg. Co                                 | Halk & Naumann                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Works. Johnson, Wm. C. & Sons Meb Co. Jones, B. M. & Co. Jones & Dommersnas. Jones & Lamson Machine Co Jones & Laughlins, Ltd  K Kay, G. Ashton Keagy & Lear Machine Co.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Central Hardware Co                                 | Dodge Mfg. Co                                 | Halk & Naumann                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Works. Johnson, Wm. C. & Sons Meh Co. Jones, B. M. & Co. Jones & Dommersnas. Jones & Dommersnas. Jones & Laughlins, Ltd  K Kay, G. Ashton. Keagy & Lear Machine Co. Keeley, Jerome & Co.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| B   B   B   B   B   B   B   B   B   B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Central Hardware Co                                 | Dodge Mfg. Co                                 | Halk & Naumann                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Works. Johnson, Wm. C. & Sons Meb. Co Jones, B. M. & Co Jones, Jesse Paper Box Co Jones & Dommersnas. Jones & Laumon Machine Co. Jones & Laughlins, Ltd  K Kay, G. Ashton Keagy & Lear Machine Co Keeley, Jerome & Co Keeley, Jerome & Co Keen & Hagerty Mig. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| B   B   B   B   B   B   B   B   B   B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Central Hardware Co                                 | Dodge Mfg. Co                                 | Halk & Naumann                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Works. Johnson, Wm. C. & Sons Met Co. Jones, B. M. & Co. Jones, Jesse Paper Box Co. Jones & Dommersnas. Jones & Launson Machine Co. Jones & Laughlins, Ltd.  K Kay, G. Ashton. Keagy & Lear Machine Co. Keeley, Jerome & Co. Kelley, B. F. & Son.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| B   B   B   B   B   B   B   B   B   B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Central Hardware Co                                 | Dodge Mfg. Co                                 | Halk & Naumann                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Works. Johnson, Wm. C. & Sons Met Co. Jones, B. M. & Co. Jones & Dommersnas. Jones & Lamson Machine Co. Jones & Laughlins, Ltd  K Kay, G. Ashton Keagy & Lear Machine Co. Keeley, Jerome & Co. Keeley, B. F. & Son. Kennedy, Julian.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Barret   B | Central Hardware Co                                 | Dodge Mfg. Co                                 | Halk & Naumann                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Works. Johnson, Wm. C. & Sons Met Co. Jones, B. M. & Co. Jones, Jesse Paper Box Co. Jones & Dommersnas. Jones & Laughlins, Ltd.  K Kay, G. Ashton. Keagy & Lear Machine Co. Keeley, Jerome & Co. Keeley, Jerome & Co. Kelley, B. F. & Son. Kennedy, Julian. Kennedy, Walter.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Central Hardware Co                                 | Dodge Mfg. Co                                 | Halk & Naumann                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Works. Johnson, Wm. C. & Sons Met Co. Jones, B. M. & Co. Jones, B. M. & Co. Jones & Dommersnas. Jones & Lamson Machine Co. Jones & Lamson Machine Co. Jones & Lamson Machine Co. Keley, Jerome & Co. Keeley, Jerome & Co. Keeley, Jerome & Co. Kelley, B. F. & Son. Kennedy, Julian. Kennedy, Walter Kennedy, Walter Kennedy Valter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| bcock & Wilcox Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Central Hardware Co                                 | Dodge Mfg. Co                                 | Halk & Naumann                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Works Johnson, Wm. C. & Sons Met Co Jones, B. M. & Co Jones, Jesse Paper Box Co Jones & Dommersnas Jones & Lamson Machine Co. Jones & Laughlins, Ltd  K Kay, G. Ashton Keagy & Lear Machine Co Keeley, Jerome & Co. Keeley, Jerome & Co. Kelley, B. F. & Son Kennedy, Julian Kennedy, Walter Kennedy Valve Mfg. Co Kerrick, J. H. Keystone Drop Forge Work                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Back    | Central Hardware Co                                 | Dodge Mfg. Co                                 | Halk & Naumann. 3 Hall, Thomas. 113 Hall, Thomas. 113 Hall's, Samuel, Sons. 14 Hamlin, Geo. R. 7 Hammer & Co. 120 Hannan & Finton. 87 Harrington, E. Son & Co. 52&50 Harrington & King Perforating Co. 5 Harrington & Hichardson Arms Co. 128 Harris, Samuel & Co. 58 Harris, Samuel & Co. 58 Harris Machinery Co. 88 Harrison Safety Boller Wks. 46 Hartford Steam Boller Insp. and Ins. Co. 41 Hartigan, W. R. 190 Hartman Mfg. Co. 9 Harvey, Arthur C. Co. 27 Haskell, Wm. H. Mfg. Co. 18                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Works. Johnson, Wm. C. & Sons Met Co. Jones, B. M. & Co. Jones, Jesse Paper Box Co. Jones & Dommersnas. Jones & Launson Machine Co. Jones & Laughlins, Ltd.  K Kay, G. Ashton. Keagy & Lear Machine Co. Keeley, Jerome & Co. Keeley, Jerome & Co. Keeley, Jerome & Co. Kennedy, Julian. Kennedy, Julian. Kennedy, Walter. Kennedy Valve Mfg. Co. Kerrick, J. H. Keystone Drop Forge Work Keystone Mfg. Co.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Central Hardware Co                                 | Dodge Mfg. Co                                 | Halk & Naumann. 3 Hall, Thomas. 113 Hall, Thomas. 113 Hall's, Samuel, Sons. 14 Hamlin, Geo. R. 7 Hammer & Co. 120 Hannan & Finton. 87 Harrington, E. Son & Co52&60 Harrington & King Perforating Co. 128 Harrington & Hichardson Arms Co. 128 Harris, Samuel & Co. 58 Harris Machinery Co. 88 Harris Machinery Co. 88 Harrison Safety Boiler Wks. 46 Hartford Steam Boiler Insp. and Ins. Co. 41 Hartigan, W. R. 190 Hartman Mfg. Co. 9 Harvey, Arthur C. Co. 27 Haskell, Wm. H. Mfg. Co. 18 Haws, W. H. Fire Brick Co. 35 Hay, Budden Mfg. Co. 119 Hazard Mfg. Co. 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Works. Johnson, Wm. C. & Sons Mel Co. Jones, B. M. & Co. Jones, Jesse Paper Box Co. Jones & Dommersnas. Jones & Launson Machine Co. Jones & Laughlins, Ltd.  K Kay, G. Ashton. Keagy & Lear Machine Co. Keeley, Jerome & Co. Keeley, Jerome & Co. Kelley, B. F. & Son. Kennedy, Julian. Kennedy, Julian. Kennedy, Walter Kennedy Valve Mfg. Co. Kerrick, J. H. Keystone Drop Forge Work Keystone Mfg. Co. Kidd Bros. & Burgher Ste                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| bcock & Wilcox Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Central Hardware Co                                 | Dodge Mfg. Co                                 | Halk & Naumann. 3 Hall, Thomas. 113 Hall, Thomas. 113 Hall's, Samuel, Sons. 14 Hamlin, Geo. R. 7 Hammer & Co. 120 Hannan & Finton. 87 Harrington, E. Son & Co. 52&60 Harrington & King Perforating Co. 5 Harrington & Hichardson Arms Co. 128 Harris, Samuel & Co. 58 Harris Machinery Co. 88 Harris Machinery Co. 88 Harris Machinery Co. 41 Hartigan, W. R. 100 Hartman Mfg. Co. 9 Harvey, Arthur C. Co. 27 Haskell, Wm. H. Mfg. Co. 18 Haws, W. H. Fire Brick Co. 35 Hay, Budden Mfg. Co. 119 Hazard Mfg. Co. 7 Heald, L. S. & Son. 58                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Works Johnson, Wm. C. & Sons Met Co Jones, B. M. & Co Jones, Jesse Paper Box Co Jones & Dommersnas Jones & Lamson Machine Co. Jones & Laughlins, Ltd  K Kay, G. Ashton Keagy & Lear Machine Co Keeley, Jerome & Co Keeley, Jerome & Co Keeley, Jerome & Co Kennedy, Julian Kennedy, Walter Kennedy Valve Mfg. Co Kerrick, J. H. Keystone Drop Forgs Work Keystone Mfg. Co Kidd Bros. & Burgher Ste Wire Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Central Hardware Co                                 | Dodge Mfg. Co                                 | Halk & Naumann. 3 Hall, Thomas. 113 Hall, Thomas. 113 Hall's, Samuel, Sons. 14 Hamlin, Geo. R. 7 Hammer & Co. 20 Hannan & Finton. 87 Harrington, K. Son & Co52&80 Harrington & King Perforating Co. 5 Harrington & Hichardson Arms Co. 128 Harris, Samuel & Co58 Harris Machinery Co88 Harris Machinery Co88 Harrison Safety Boller Wks. 46 Hartford Steam Boller Insp. and Ins. Co41 Hartigan, W. R. 100 Hartman Mfg. Co9 Haws, W. H. Hire Brick Co35 Haws, W. H. Fire Brick Co35 Haws, W. H. Fire Brick Co19 Hazard Mfg. Co19 Hazard Mfg. Co19 Hazard Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Works. Johnson, Wm. C. & Sons Met Co. Jones, B. M. & Co. Jones, Jesse Paper Box Co. Jones & Dommersnas. Jones & Laughlins, Ltd.  K Kay, G. Ashton. Kearg & Lear Machine Co. Keeley, Jerome & Co. Keeley, Jerome & Co. Keen & Hagerty Mfg. Co. Kelley, B. F. & Son. Kennedy, Julian. Kennedy, Walter Kennedy Valve Mfg. Co. Kerrick, J. H. Keystone Drop Forge Works Keystone Mfg. Co. Kidd Bros. & Burgher Ste Wire Co. Kidder, R. E.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| bcock & Wilcox Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Central Hardware Co                                 | Dodge Mfg. Co                                 | Halk & Naumann. 3 Hall, Thomas. 113 Hall, Thomas. 113 Hall's, Samuel, Sons. 14 Hamlin, Geo. R. 7 Hammer & Co. 120 Hannan & Finton. 87 Harrington, E. Son & Co52&60 Harrington & King Perforating Co. 5 Harrington & Hichardson Arms Co. 128 Harris, Samuel & Co. 58 Harris Machinery Co. 88 Harris Machinery Co. 88 Harrison Safety Boiler Wks. 46 Hartford Steam Boller Insp. and Ins. Co. 41 Hartigan, W. R. 190 Hartman Mfg. Co. 9 Harvey, Arthur C. Co. 27 Haskell, Wm. H. Mfg. Co. 18 Haws, W. H. Fire Brick Co. 35 Hay, Budden Mfg. Co. 19 Hazard Mfg. Co. 7 Heald, L. S. & Son. 58 Heat Transmission Co. 41 Heinisch's, R. Sons. 103                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Works. Johnson, Wm. C. & Sons Met Co. Jones, B. M. & Co. Jones, Jesse Paper Box Co. Jones & Dommersnas. Jones & Laughlins, Ltd.  K Kay, G. Ashton. Keagy & Lear Machine Co. Keeley, Jerome & Co. Keeley, Jerome & Co. Keeley, B. F. & Son. Kennedy, Julian. Kennedy, Julian. Kennedy, Valve Mfg. Co. Kerrick, J. H. Keystone Drop Forge Work Keystone Mfg. Co. Kidd Bros. & Burgher Ste Wire Co. Kidder, R. E. Kilborn & Bishop Co.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| bcock & Wilcox Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Central Hardware Co                                 | Dodge Mfg. Co                                 | Halk & Naumann. 3 Hall, Thomas. 113 Hall, Thomas. 113 Hall's, Samuel, Sons. 14 Hamlin, Geo. R. 7 Hammer & Co. 120 Hannan & Finton. 87 Harrington, E. Son & Co. 52&50 Harrington & King Perforating Co. 5 Harrington & Hichardson Arms Co. 128 Harris, Samuel & Co. 58 Harris, Samuel & Co. 58 Harris Machinery Co. 88 Harris Machinery Co. 88 Harrison Safety Boller Wks. 46 Hartford Steam Boller Insp. and Ins. Co. 41 Hartigan, W. R. 100 Hartman Mfg. Co. 9 Harvey, Arthur C. Co. 27 Haskell, Wm. H. Mfg. Co. 18 Haws, W. H. Fire Brick Co. 35 Hay, Budden Mfg. Co. 119 Hazard Mfg. Co. 7 Heald, L. S. & Son. 58 Heat Transmission Co. 41 Heinisch's, R. Sons. 103 Helinsch's, R. Sons. 103 Helirs Bros. Co. 119                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Works. Johnson, Wm. C. & Sons Meh Co. Jones, B. M. & Co. Jones, B. M. & Co. Jones & Dommersnas. Jones & Lamson Machine Co Jones & Lamson Machine Co Jones & Laughlins, Ltd.  K Kay, G. Ashton. Keagy & Lear Machine Co. Keeler, Jerome & Co. Keeler, Jerome & Co. Kenendy Majer Mfg. Co. Kennedy, Julian. Kennedy, Walter. Kennedy Valve Mfg. Co. Kerrick, J. H. Keystone Drop Forge Works Keystone Mfg. Co. Kidd Bros. & Burgher Stee Wire Co. Kidder, R. E. Kilborn & Bishop Co. Kildorn & Sishop Co. Kildorn & Sishop Co. Kildorn & Bishop Co. Kildorn & Bishop Co. Kildorn & Sishop Co.                                                                                                                                                                                                                                                                                                                                |
| B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Central Hardware Co                                 | Dodge Mfg. Co                                 | Halk & Naumann. 3 Hall, Thomas. 113 Hall, Thomas. 113 Hall's, Samuel, Sons. 14 Hamlin, Geo. R. 7 Hammer & Co. 20 Hannan & Finton. 87 Harrington, E. Son & Co. 52&80 Harrington & King Perforating Co. 5 Harrington & Hichardson Arms Co. 128 Harris, Samuel & Co. 58 Harris Machinery Co. 88 Harris on Safety Boiler Wks. 46 Hartford Steam Boller Insp. and Ins. Co. 41 Hartigan, W. R. 100 Hartman Mfg. Co. 9 Harws, Arthur C. Co. 27 Haskell, Wm. H. Mfg. Co. 18 Haws, W. H. Fire Brick Co. 35 Hay, Budden Mfg. Co. 119 Hazard Mfg. Co. 7 Heald, L. S. & Son. 58 Heat Transmission Co. 41 Heinisch's, R. Sons. 103 Heller Box Co. 109                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Works. Johnson, Wm. C. & Sons Meb Co. Jones, B. M. & Co. Jones, Jesse Paper Box Co. Jones & Dommersnas. Jones & Laumson Machine Co Jones & Laughlins, Ltd.  K Kay, G. Ashton. Keary & Lear Machine Co. Keeley, Jerome & Co. Keeley, Jerome & Co. Keeley, Jerome & Co. Keeley, Jerome & Co. Kennedy, Valter Kennedy, Walter Kennedy, Walter Kennedy Valve Mfg. Co. Kerrick, J. H. Keystone Drop Forge Work Keystone Mfg. Co. Kidd Bros. & Burgher Ster Wire Co. Kidder, R. E. Kilbora & Bishop Co. Kildourne & Jacobs Mfg. Co. Kilmer Wire Mfg. Co. Kilmer Wire Mfg. Co.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| boock & Wilcox Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Central Hardware Co                                 | Dodge Mfg. Co.   51                           | Halk & Naumann. 3 Hall, Thomas. 113 Hall, Thomas. 113 Hall's, Samuel, Sons. 14 Hamlin, Geo. R. 7 Hammer & Co. 120 Hannan & Finton. 87 Harrington, E. Son & Co52&60 Harrington & King Perforating Co. 5 Harrington & Hichardson Arms Co. 128 Harris, Samuel & Co. 58 Harris Machinery Co. 88 Harris Machinery Co. 88 Harris Machinery Co. 40 Hartigan, W. R. 190 Hartman Mfg. Co. 9 Hartman Mfg. Co. 19 Haws, W. H. Fire Brick Co. 35 Hay, Budden Mfg. Co. 19 Hazard Mfg. Co. 19 Healer Bos. Co. 41 Heinisch's, R. Sons. 103 Heller Bos. Co. 119                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Works. Johnson, Wm. C. & Sons Met Co. Jones, B. M. & Co. Jones, Jesse Paper Box Co. Jones & Dommersnas. Jones & Lauson Machine Co. Jones & Laushins, Ltd.  K Kay, G. Ashton. Keagy & Lear Machine Co. Keeley, Jerome & Co. Keeley, Jerome & Co. Keeley, Jerome & Co. Keeley, Jerome & Co. Kennedy, Julian. Kennedy, Julian. Kennedy, Julian. Kennedy Valve Mfg. Co. Kerrick, J. H. Keystone Drop Forge Works Keystone Mfg. Co. Kidde Bros. & Burgher Stee Wire Co. Kidder, R. E. Kilborn & Bishop Co. Kilmer Wire Mfg. Co.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| boock & Wilcox Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Central Hardware Co                                 | Dodge Mfg. Co                                 | Halk & Naumann. 3 Hall, Thomas. 113 Hall, Thomas. 113 Hall's, Samuel, Sons. 14 Hamlin, Geo. R. 7 Hammer & Co. 120 Hannan & Finton. 87 Harrington, K. Son & Co. 52&50 Harrington & King Perforating Co. 18 Harrington & Hichardson Arms Co. 128 Harris, Samuel & Co. 58 Harris, Samuel & Co. 58 Harris, Samuel & Co. 58 Harris Auchinery Co. 88 Harris Samuel & Co. 58 Harrison Safety Boller Wks. 46 Hartford Steam Boller Insp. 20 Hartman Mg. Co. 9 Hartman Mg. Co. 9 Hartman Mg. Co. 9 Hartman Mg. Co. 19 Harvey, Arthur C. Co. 27 Haskell, Wm. H. Mfg. Co. 18 Haws, W. H. Fire Brick Co. 35 Hay, Budden Mfg. Co. 19 Hazard Mfg. Co. 7 Heald, L. S. & Son. 58 Heat Transmission Co. 41 Heinisch's, R. Sons. 103 Heller Box Co. 109 Hendersy's A. L. Sons. 65 Henderson Bros. 34                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Works. Johnson, Wm. C. & Sons Meb Co. Jones, B. M. & Co. Jones, Jesse Paper Box Co. Jones & Dommersnas. Jones & Lampon Machine Co Jones & Lampon Machine Co Jones & Laughlins, Ltd.  K Kay, G. Ashton. Keagy & Lear Machine Co. Keeley, Jerome & Co. Keeley, Jerome & Co. Keeley, Jerome & Co. Keeley, Jerome & Co. Kennedy, Julian. Kennedy, Julian. Kennedy, Walter Kennedy Valve Mfg. Co. Kerrick, J. H. Keystone Drop Forge Works Keystone Mfg. Co. Kidde Bros. & Burgher Stewire Co. Kidder, R. E. Kilborn & Bishop Co. Kidder, R. E. Kilborn & Bishop Co. Kimball Bros. & Sprague. King, J. M. & Co. King, J. M. & Co.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| bcock & Wilcox Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Central Hardware Co                                 | Dodge Mfg. Co                                 | Halk & Naumann. 3 Hall, Thomas. 113 Hall, Thomas. 113 Hall's, Samuel, Sons. 14 Hamlin, Geo. R. 7 Hammer & Co. 20 Hannan & Finton. 87 Harrington, E. Son & Co. 52&80 Harrington & King Perforating Co. 5 Harrington & Hichardson Arms Co. 128 Harris, Samuel & Co. 58 Harris Machinery Co. 88 Harris on Safety Boiler Wks. 46 Hartford Steam Boller Insp. and Ins. Co. 41 Hartigan, W. R. 100 Hartman Mfg. Co. 9 Harwey, Arthur C. Co. 27 Haskell, Wm. H. Mfg. Co. 18 Haws, W. H. Fire Brick Co. 35 Hay, Budden Mfg. Co. 119 Hazard Mfg. Co. 7 Heald, L. S. & Son. 58 Heat Transmission Co. 41 Helier Box Co. 119 Heller Box Co. 109 Henderer's. A. L. Sons. 65 Henderson Bros. 34 Hendery Machine Co. 93                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Works. Johnson, Wm. C. & Sons Meh Co. Jones, B. M. & Co. Jones, Jesse Paper Box Co. Jones & Dommersnas. Jones & Lamson Machine Co Jones & Lamson Machine Co Jones & Laughlins, Ltd.  K Kay, G. Ashton.  Kegley, G. Ashton.  Keeley, Jerome & Co. Keeley, Jerome & Co. Keeley, Jerome & Co. Kenedy, Julian. Kennedy, Julian. Kennedy, Valve Mfg. Co. Kerick, J. H. Keystone Drop Forge Works Keystone Mfg. Co. Kidd Bros. & Burgher Stee Wire Co. Kidder, R. E. Kilborn & Blahop Co. Kilbourne & Jacobs Mfg. Co. Kilborne & Jacobs Mfg. Co. Kilborne & Jacobs Mfg. Co. Kilmball, C. J. Co. Kimball, C. J. Co. Kimball Bros. & Sprague. King, J. M. & Co. Kokomo Fence Mach. Co.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Central Hardware Co                                 | Dodge Mfg. Co.   51                           | Halk & Naumann. 3 Hall, Thomas. 113 Hall, Thomas. 113 Hall's, Samuel, Sons. 14 Hamlin, Geo. R. 7 Hammer & Co. 120 Hannan & Finton. 87 Harrington, E. Son & Co52&80 Harrington & King Perforating Co. 5 Harrington & Hichardson Arms Co. 128 Harris, Samuel & Co. 58 Harris, Samuel & Co. 58 Harris Machinery Co. 88 Harris Machinery Co. 88 Harrison Safety Boiler Wks. 46 Hartford Steam Boiler Hisp. and Ins. Co. 41 Hartigan, W. R. 190 Hartman Mfg. Co. 9 Harvey, Arthur C. Co. 27 Haskell, Wm. H. Mfg. Co. 18 Haws, W. H. Fire Brick Co. 35 Hay, Budden Mfg. Co. 119 Hazard Mfg. Co. 7 Heald, L. S. & Son. 58 Heat Transmission Co. 41 Heinisch's, R. Sons. 103 Heller Bros. Co. 109 Heller Box Co. 109 Henderser's. A. L. Sons. 65 Henderson Bros. 34 Hendey Machine Co. 93 Hendicks Bros. 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Works. Johnson, Wm. C. & Sons Met. Co. Jones, B. M. & Co. Jones, Jesse Paper Box Co. Jones & Dommersnas. Jones & Laumon Machine Co. Jones & Laumon Machine Co. Jones & Laumon Machine Co. Kester & Lear Machine Co. Keeley, Jerome & Co. Kelley, Jerome & Co. Kelley, Jerome & Co. Kerrick, J. H. Kennedy, Walter Kennedy, Walter Kennedy, Walter Kennedy Valve Mfg. Co. Kidder, R. E. Kilborn & Bishop Co. Kidder, R. E. Kilborn & Bishop Co. Kilmball, C. J. Co. Kimball, C. J. Co. King, J. M. & Co. Kokomo Fence Mach. Co. Kokomo Fence Mach. Co. Kokomo Fence Mach. Co.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Bushook & Wilcox Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Central Hardware Co                                 | Dodge Mfg. Co.   51                           | Halk & Naumann. 3 Hall, Thomas. 113 Hall, Thomas. 113 Hall's, Samuel, Sons. 14 Hamlin, Geo. R. 7 Hammer & Co. 120 Hannan & Finton. 87 Harrington, E. Son & Co. 52&60 Harrington & King Perforating Co. 128 Harris, Samuel & Co. 128 Harris, Samuel & Co. 58 Harris, Samuel & Co. 58 Harris, Samuel & Co. 58 Harris Machinery Co. 68 Harrison Safety Bolier Wks. 46 Hartford Steam Bolier Insp. 20 Hartman Mg. Co. 9 Hartman Mg. Co. 9 Hartman Mg. Co. 18 Haws, W. H. Fire Brick Co. 35 Hay, Budden Mg. Co. 19 Hazard Mg. Co. 19 Hazard Mg. Co. 19 Hazard Mg. Co. 19 Heald, L. S. & Son. 58 Heat Transmission Co. 41 Heinisch's, R. Sons. 103 Heller Box Co. 109 Henderer's A. L. Sons. 65 Henderson Bros. 3 Hendey Machine Co. 95 Hendricks Bros. 2 Hendricks Bros. 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Works. Johnson, Wm. C. & Sons Met. Co. Jones, B. M. & Co. Jones, Jesse Paper Box Co. Jones & Dommersnas. Jones & Laumon Machine Co. Jones & Laumon Machine Co. Jones & Laumon Machine Co. Kester & Lear Machine Co. Keeley, Jerome & Co. Kelley, Jerome & Co. Kelley, Jerome & Co. Kerrick, J. H. Kennedy, Walter Kennedy, Walter Kennedy, Walter Kennedy Valve Mfg. Co. Kidder, R. E. Kilborn & Bishop Co. Kidder, R. E. Kilborn & Bishop Co. Kilmball, C. J. Co. Kimball, C. J. Co. King, J. M. & Co. Kokomo Fence Mach. Co. Kokomo Fence Mach. Co. Kokomo Fence Mach. Co.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Bibbook & Wilcox Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Central Hardware Co                                 | Dodge Mfg. Co.   51                           | Halk & Naumann. 3 Hall, Thomas. 113 Hall, Thomas. 113 Hall's, Samuel, Sons. 14 Hamlin, Geo. R. 7 Hammer & Co. 120 Hannan & Finton. 87 Harrington, E. Son & Co. 52&80 Harrington & King Perforating Co. 5 Harrington & Hichardson Arms Co. 128 Harris, Samuel & Co. 58 Harris Machinery Co. 88 Harris Machinery Co. 88 Harrison Safety Boller Wks. 46 Hartford Steam Boller Insp. and Ins. Co. 41 Hartigan, W.R. 100 Hartman, W.R. 100 Hart | Works. Johnson, Wm. C. & Sons Met. Co. Jones, B. M. & Co. Jones, Jesse Paper Box Co. Jones & Dommersnas. Jones & Laumon Machine Co. Jones & Laumon Machine Co. Jones & Laumon Machine Co. Kester & Lear Machine Co. Keeley, Jerome & Co. Kelley, Jerome & Co. Kelley, Jerome & Co. Kerrick, J. H. Kennedy, Walter Kennedy, Walter Kennedy, Walter Kennedy Valve Mfg. Co. Kidder, R. E. Kilborn & Bishop Co. Kidder, R. E. Kilborn & Bishop Co. Kilmball, C. J. Co. Kimball, C. J. Co. King, J. M. & Co. Kokomo Fence Mach. Co. Kokomo Fence Mach. Co. Kokomo Fence Mach. Co.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| beook & Wilcox Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Central Hardware Co                                 | Dodge Mfg. Co                                 | Halk & Naumann. 3 Hall, Thomas. 113 Hall, Thomas. 113 Hall's, Samuel, Sons. 14 Hamlin, Geo. R. 7 Hammer & Co. 20 Hannan & Finton. 87 Harrington, K. Son & Co. 52&80 Harrington & King Perforating Co. 5 Harrington & Richardson Arms Co. 128 Harris, Samuel & Co. 58 Harris Machinery Co. 88 Harris Machinery Co. 88 Harris Machinery Co. 98 Harrison Safety Boller Wks. 46 Hartford Steam Boller Insp. and Ins. Co. 41 Hartigan, W. R. 190 Hartman Mfg. Co. 9 Harvey, Arthur C. Co. 27 Haskell, Wm. H. Mfg. Co. 18 Haws, W. H. Fire Brick Co. 35 Hay, Budden Mfg. Co. 119 Hazard Mfg. Co. 7 Heald, L. S. & Son. 58 Heat Transmission Co. 41 Heinisch's, R. Sons. 103 Heller Box Co. 109 Heller Box Co. 109 Heller Box Co. 109 Hendersor's A. L. Sons. 65 Henderson Bros. 34 Hendey Machine Co. 93 Hendricks Bros. 2 Hendryx, A. B. Co. 3 Hess, Snyder & Co. 53 Heyl & Patterson. 58                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Works. Johnson, Wm. C. & Sons Met. Co. Jones, B. M. & Co. Jones, Jesse Paper Box Co. Jones & Dommersnas. Jones & Laumon Machine Co. Jones & Laumon Machine Co. Kester, Lear Machine Co. Keeley, Jerome & Co. Kelloy, Julian Kennedy, Walter Kennedy, Walter Kennedy, Walter Kennedy, Walter Keystone Drop Forge Work Keystone Mfg. Co. Kidder, R. E. Kilbourne & Jacobs Mfg. Co Kilmbourne & Jacobs Mfg. Co Kilmball, C. J. Co. Kimball, C. J. Co. King, J. M. & Co. Kokomo Fence Mach. Co. Kupferle, Jno. C.                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| beook & Wilcox Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Central Hardware Co                                 | Dodge Mfg. Co                                 | Halk & Naumann. 3 Hall, Thomas. 113 Hall, Thomas. 113 Hall's, Samuel, Sons. 14 Hamlin, Geo. R. 7 Hammer & Co. 20 Hannan & Finton. 87 Harrington, K. Son & Co. 52&80 Harrington & King Perforating Co. 5 Harrington & Hichardson Arms Co. 128 Harris, Samuel & Co. 58 Harris Machinery Co. 88 Harris Machinery Co. 88 Harris Machinery Co. 88 Harrison Safety Boiler Wks. 46 Hartford Steam Boller Insp. and Ins. Co. 41 Hartigan, W. R. 190 Hartman Mfg. Co. 9 Harvey, Arthur C. Co. 27 Haskell, Wm. H. Mfg. Co. 18 Haws, W. H. Fire Brick Co. 35 Haws, W. H. Fire Brick Co. 35 Heald, L. S. & Son. 58 Heat Transmission Co. 41 Heinisch's, R. Sons. 103 Heller Box Co. 109 Henderer's A. L. Sons. 65 Henderson Bros. 2 Hendryx, A. B. Co. 9 Hendricks Bros. 2 Hendryx, A. B. Co. 3 Hess, Snyder & Co. 53 Heyl & Patterson. 86 Hibbard, W. H. 7 Hickman, Williams & Co. 20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Works. Johnson, Wm. C. & Sons Met. Co. Jones, B. M. & Co. Jones, Jesse Paper Box Co. Jones & Dommersnas. Jones & Laumon Machine Co. Jones & Laumon Machine Co. Kester, Lear Machine Co. Keeley, Jerome & Co. Kelloy, Julian Kennedy, Walter Kennedy, Walter Kennedy, Walter Kennedy, Walter Keystone Drop Forge Work Keystone Mfg. Co. Kidder, R. E. Kilbourne & Jacobs Mfg. Co Kilmbourne & Jacobs Mfg. Co Kilmball, C. J. Co. Kimball, C. J. Co. King, J. M. & Co. Kokomo Fence Mach. Co. Kupferle, Jno. C.                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Babcock & Wilcox Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Central Hardware Co                                 | Dodge Mfg. Co.   51                           | Halk & Naumann. 3 Hall, Thomas. 113 Hall, Thomas. 113 Hall's, Samuel, Sons. 14 Hamlin, Geo. R. 7 Hammer & Co. 20 Hannan & Finton. 87 Harrington, K. Son & Co. 52&80 Harrington & King Perforating Co. 5 Harrington & Hichardson Arms Co. 128 Harris, Samuel & Co. 58 Harris Machinery Co. 88 Harris Machinery Co. 88 Harris Machinery Co. 88 Harrison Safety Boiler Wks. 46 Hartford Steam Boller Insp. and Ins. Co. 41 Hartigan, W. R. 190 Hartman Mfg. Co. 9 Harvey, Arthur C. Co. 27 Haskell, Wm. H. Mfg. Co. 18 Haws, W. H. Fire Brick Co. 35 Haws, W. H. Fire Brick Co. 35 Heald, L. S. & Son. 58 Heat Transmission Co. 41 Heinisch's, R. Sons. 103 Heller Box Co. 109 Henderer's A. L. Sons. 65 Henderson Bros. 2 Hendryx, A. B. Co. 9 Hendricks Bros. 2 Hendryx, A. B. Co. 3 Hess, Snyder & Co. 53 Heyl & Patterson. 86 Hibbard, W. H. 7 Hickman, Williams & Co. 20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Works. Johnson, Wm. C. & Sons Meh Co. Jones, B. M. & Co. Jones, Jesse Paper Box Co. Jones & Dommersnas. Jones & Lamson Machine Co Jones & Lausenins, Ltd.  K Kay, G. Ashton.  Keagy & Lear Machine Co. Keeley, Jerome & Co. Kene & Hagerty Mfg. Co. Keiley, B. F. & Son Kennedy, Julian. Kennedy, Waiter. Kennedy Vaive Mfg. Co. Kerick, J. H. Keystone Drop Forge Works Keystone Mfg. Co. Kidd Bros. & Burgher Stee Wire Co. Kidder, R. E. Kilborn & Bishop Co. Kildourne & Jacobs Mfg. Co. Kilbourne & Jacobs Mfg. Co. Kilbourne & Jacobs Mfg. Co. Kilborne & Sprague. King, J. M. & Co. Kokomo Fence Mach. Co. Konigslow, E. & Bro. Kupferle, Jno. C. Lake: Ut Engineering Co. Lake: Ut Engineering Co.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| abcock & Wilcox Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Central Hardware Co                                 | Dodge Mfg. Co.   51                           | Halk & Naumann                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Kay, G. Ashton.  Keagy & Lear Machine Co  Keeley, Jerome & Co  Keene & Hagerty Mfg. Co  Kelley, B. F. & Son  Kennedy, Julian.  Kennedy, Valve Mfg. Co  Kernedy Valve Mfg. Co  Kerrick, J. H.  Keystone Drop Forge Works  Keystone Mfg. Co  Kidd Bros. & Burgher Stee  Wire Co  Kidder, B. E  Kilborn & Blahop Co  Kilbourne & Jacobs Mfg. Co  Kilmball Bros. & Sprague.  King, J. M. & Co  Kimball Bros. & Sprague.  King, J. M. & Co  Konigslow, E. & Bro  Kupferle, Jno. C  Lake Ity Engineering Co  Lake Ity Engineering Co  Landon, David                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| beook & Wilcox Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Central Hardware Co                                 | Dodge Mfg. Co.   51                           | Halk & Naumann. 3 Hall, Thomas. 113 Hall's, Samuel, Sons. 14 Hamlin, Geo. R. 7 Hammer & Co. 20 Hannan & Finton. 87 Harrington, K. Son & Co. 52&80 Harrington & King Perforating Co. 5 Harrington & Richardson Arms Co. 128 Harris, Samuel & Co. 58 Harris Machinery Co. 88 Harris Machinery Co. 88 Harris Machinery Co. 98 Harrison Safety Boiler Wks. 46 Hartford Steam Boiler Insp. and Ins. Co. 41 Hartigan, W. R. 190 Hartman Mfg. Co. 9 Harvey, Arthur C. Co. 27 Haskell, Wm. H. Mfg. Co. 18 Haws, W. H. Fire Brick Co. 35 Hay, Budden Mfg. Co. 119 Hazard Mfg. Co. 7 Heald, L. S. & Son. 58 Heat Transmission Co. 41 Heinisch's, R. Sons. 103 Heller Box Co. 119 Heller Box Co. 119 Heller Box Co. 119 Heller Box Co. 119 Heller Box Co. 109 Henderser's. A. L. Sons. 65 Henderson Bros. 34 Hendey Machine Co. 93 Hendricks Bros. 2 Hendryx, A. B. Co. 3 Hess, Snyder & Co. 53 Hoyl & Patterson. 88 Hibbard, W. H. 70 Hickmau, Williams & Co. 29 Heiter, T. & Son. 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Works Johnson, Wm. C. & Sons Mch Co. Jones, B. M. & Co. Jones, B. M. & Co. Jones & Dommersnas. Jones & Laurson Machine Co. Jones & Laurson Machine Co. Jones & Laurson Machine Co. Kenes & Laurson Machine Co. Kean & Laurson Machine Co. Keeley, Jerome & Co. Keeley, Jerome & Co. Keeley, Jerome & Co. Keenedy, Julian Rennedy, Julian Rennedy, Julian Rennedy, Walter Kennedy Valve Mfg. Co. Kerick, J. H. Keystone Drop Forge Works Keystone Drop Forge Works Keystone Mfg. Co. Kidd Bros. & Burgher Stee Wire Co. Kidder, R. E. Kilborn & Bishop Co. Kidder, R. E. Kilborn & Bishop Co. Kimball, C. J. Co. Kimball, C. J. Co. Koningslow, K. & Bro. Konfigslow, K. & Bro. Kupferle, Jno. C. Lake ty Engineering Co. Landis Tool Co. Lane Brothers Co.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| beock & Wilcox Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Central Hardware Co                                 | Dodge Mfg. Co.   51                           | Halk & Naumann. 3 Hall, Thomas. 113 Hall, Thomas. 113 Hall's, Samuel, Sons. 14 Hamlin, Geo. R. 7 Hammer & Co. 120 Hannan & Finton. 87 Harrington, E. Son & Co. 52&60 Harrington & King Perforating Co. 128 Harrington & Hichardson Arms Co. 128 Harris, Samuel & Co. 58 Harris, Samuel & Co. 58 Harris Machinery Co. 68 Harrison Safety Bolier Wks. 46 Hartford Steam Bolier Insp. 20 Harting Machinery Co. 9 Harting Machinery Co. 9 Harting M. R. 100 Hartman Mfg. Co. 9 Hartman Mfg. Co. 18 Haws, W. H. Fire Brick Co. 35 Hay, Budden Mfg. Co. 119 Hazard Mfg. Co. 119 Hazard Mfg. Co. 119 Heller Box Co. 109 Henderer's A. L. Sons. 65 Henderson Bros. 3 Hendey Machine Co. 93 Hendery Machine Co. 95 Hendricks Bros. 2 Hendry & Patterson. 18 Helle Patterson. 18 Helle Patterson. 18 Helle Apatterson. 19 Hils, C. A. & Co. 129 Hill, Henry F. 35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Works. Johnson, Wm. C. & Sons Meh Co. Jones, B. M. & Co. Jones, Jesse Paper Box Co. Jones & Dommersnas. Jones & Lamson Machine Co Jones & Lausenins, Ltd.  K Kay, G. Ashton.  Keagy & Lear Machine Co. Keeley, Jerome & Co. Keeley, Jerome & Co. Keeley, Jerome & Co. Kenedy, Jerome & Co. Kenedy, Julian. Kennedy, Waiter. Kennedy, Valve Mfg. Co. Kerick, J. H. Keystone Drop Forge Works Keystone Mfg. Co. Kidd Bros. & Burgher Stee Wire Co. Kidder, R. E. Kilborn & Bishop Co. Kildourne & Jacobs Mfg. Co. Kilbourne & Jacobs Mfg. Co. Kilbourne & Jacobs Mfg. Co. Kilbourne & Bishop Co. Kilbourne & Jacobs Mfg. Co. Kilbourne & Bishop Co. Kilbourne & Bishop Co. Kilbourne & Jacobs Mfg. Co. Lang Luty Fingineering Co. Lanke tity Engineering Co. Lang Cutlery Works. |
| bcock & Wilcox Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Central Hardware Co                                 | Dodge Mfg. Co.   51                           | Halk & Naumann. 3 Hall, Thomas. 113 Hall, Thomas. 113 Hall's, Samuel, Sons. 14 Hamlin, Geo. R. 7 Hammer & Co. 120 Hannan & Finton. 87 Harrington, E. Son & Co. 52&60 Harrington & King Perforating Co. 128 Harrington & Hichardson Arms Co. 128 Harris, Samuel & Co. 58 Harris, Samuel & Co. 58 Harris Machinery Co. 68 Harrison Safety Bolier Wks. 46 Hartford Steam Bolier Insp. 20 Harting Machinery Co. 9 Harting Machinery Co. 9 Harting M. R. 100 Hartman Mfg. Co. 9 Hartman Mfg. Co. 18 Haws, W. H. Fire Brick Co. 35 Hay, Budden Mfg. Co. 119 Hazard Mfg. Co. 119 Hazard Mfg. Co. 119 Heller Box Co. 109 Henderer's A. L. Sons. 65 Henderson Bros. 3 Hendey Machine Co. 93 Hendery Machine Co. 95 Hendricks Bros. 2 Hendry & Patterson. 18 Helle Patterson. 18 Helle Patterson. 18 Helle Apatterson. 19 Hils, C. A. & Co. 129 Hill, Henry F. 35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Works. Johnson, Wm. C. & Sons Mch Co. Jones, B. M. & Co. Jones, Jesse Paper Box Co. Jones & Dommersnas. Jones & Laumon Machine Co Jones & Laumon Machine Co Jones & Laughlins, Ltd.  K Kay, G. Ashton. Keary & Lear Machine Co. Keeley, Jerome & Co. Kelley, B. F. & Son Kennedy, Walter Kennedy, Walter Kennedy, Walter Kennedy, Walter Kennedy Valve Mfg. Co. Kidd Bros. & Burgher Stewies Wire Co. Kidder, R. E. Kilbourne & Jacobs Mfg. Co Kilder, R. E. Kilbourne & Jacobs Mfg. Co Kilmer Wire Mfg. Co. Kimball, C. J. Co. Kimball, C. J. Co. King, J. M. & Co. Kokomo Fence Mach. Co. Konigslow, K. & Bro. Kupferle, Jno. C. Late Brothers Co. Lance Brothers Co. Lance Brothers Co.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| beock & Wilcox Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Central Hardware Co                                 | Dodge Mfg. Co.   51                           | Halk & Naumann. 3 Hall, Thomas. 113 Hall, Thomas. 113 Hall's, Samuel, Sons. 14 Hamlin, Geo. R. 7 Hammer & Co. 120 Hannan & Finton. 87 Harrington, E. Son & Co. 52&60 Harrington & King Perforating Co. 128 Harrington & Hichardson Arms Co. 128 Harris, Samuel & Co. 58 Harris, Samuel & Co. 58 Harris Machinery Co. 68 Harrison Safety Bolier Wks. 46 Hartford Steam Bolier Insp. 20 Harting Machinery Co. 9 Harting Machinery Co. 9 Harting M. R. 100 Hartman Mfg. Co. 9 Hartman Mfg. Co. 18 Haws, W. H. Fire Brick Co. 35 Hay, Budden Mfg. Co. 119 Hazard Mfg. Co. 119 Hazard Mfg. Co. 119 Heller Box Co. 109 Henderer's A. L. Sons. 65 Henderson Bros. 3 Hendey Machine Co. 93 Hendery Machine Co. 95 Hendricks Bros. 2 Hendry & Patterson. 18 Helle Patterson. 18 Helle Patterson. 18 Helle Apatterson. 19 Hils, C. A. & Co. 129 Hill, Henry F. 35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Works. Johnson, Wm. C. & Sons Met Co. Jones, B. M. & Co. Jones, Jesse Paper Box Co. Jones & Dommersnas. Jones & Lamson Machine Co Jones & Lamson Machine Co Jones & Laughlins, Ltd.  K  Kay, G. Ashton. Keary & Lear Machine Co. Keeley, Jerome & Co. Kelley, B. F. & Son. Kennedy, Walter. Kennedy, Valter Kennedy, Valter Kennedy, Valter Kennedy Valve Mfg. Co. Kinder Brook Mfg. Co. Kidder, R. E. Kilborn & Bishop Co. Kidder, R. E. Kilborn & Bishop Co. Kilder, R. E. Kilborn & Sprague. King, J. M. & Co. Kokomo Fence Mach. Co. Konigslow, K. & Brook Konigslow, K. & Brook Kupferle, Jno. C.  Landle Steel Co. Landon David. Lane Brothers Co.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| Law. J. Tatnall & Co. 90 Lea. J. Tatnall & Co. 90 Lecount, Wm. G. 118 Leffier, Chas. & Co. 66 Leng's, Jno. 8. Son & Co. 146 Leonard, John & Co. 99 Leonard, John & Co. 99 Leonard, John & Co. 99 Leschen, A. & Sons Rope Co. 7 Levis, Henry & Co. 22 Lewis Tool Co. 116 Lidgerwood Mfg. Co. 116 Lidgerwood Mfg. Co. 116 Lidgerwood Mfg. Co. 126 Lindsay, W. & Co. 24 Link-Helt Engineering Co. 22 Livermore, Homer F. 34&25 Lloyd Mfg. Co. 124 Lockhart Iron & Steel Co. 25 Lodge & Shipley Mch. Tool Co. 83 Logan Iron & Steel Co. 89 Logan & Strobridge Iron Co. 102 Lombart Iron Works & Supply Co. 136 Loyd, John. 100 Ludlow. Saylor Wire Co. 8 Lurkin Rule Co. 107 Lukens Iron & Steel Co. 27 Lund, S. T. 84 Lyon, N. 139 McCabe, J. 70&83 McCabe Hanger Mfg. Co. 192125 McCaffrey File Co. 107 Lukens Iron & Steel Co. 23 McDowell, Stocker & Co. 84 McGowan, J. H. & Co. 47 McInne, C. E. 27 McKinnon Dash Co. 133 McKinnon Dash Co. 133 Maryle Lead Works. 95 Manning, Maxwell & Moore. 85 Manogue-Pidgeon Iron Co. 128 Markham Air Rifie Co. 129 Markie Lead Works. 95 Marin Fire Arms Co. 128 Markham Air Rifie Co. 129 Manning, Maxwell & Moore. 85 Manogue-Pidgeon Iron Co. 23 Markie Lead Works. 95 Marin Fire Arms Co. 128 Markham Air Rifie Co. 129 Marin Mfg. Co. 123 Markle Lead Works. 95 Marin Fire Arms Co. 128 Markham Air Rifie Co. 129 Marin Mfg. Co. 124 Markham Air Rifie Co. 129 Marin Fire Arms Co. 128 Markham Air Rifie Co. 129 Marin Mfg. Co. 65 Mertil Bros. 109 Miller, H. & Son. 35 May & Spaiding. 89 Maywwy H. H. Co. 199 Miller, C. & Son Co. 146 Miller Engineering Co. 49 Miller, Edward & Co. 190 Miller, Edward & C | Image   12   12   13   14   15   15   15   15   15   15   15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Plymouth Mills                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Simplex Time Recorder Co 106 Singer, Nimick & Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | U, S. Steel Lock Co. Universal Machine Co. Up-to-date Mfg. Co. Utica Drop Forge & Tool Co. V Valentine, M. D. & Bro. Van Dorn Iron Works Co. Van Dorn Iron Works Co. Van Wagoner & Williams Hardware Co. Valetty Machine Co. Velox Machine Co. Vitrined Emery Wheel Co. Wardlow, S. & C. Wardlow, S. & C. Ward, Edsar T. & Sons. Warner Bros. Co. Warren City Boller Works. Warnern, J. D. Mfg. Co. Washburn Shops. Washburn Shops. Washburn Shops. Washerbury Brass Co. Waterbury Brass Co. Waterbury Rope Co. Watson, E. P. Watson, S. A. Watson-Stillman Co. Wayne, Anthony Mfg. Co. Webeter, Warren & Co. Welch, T. F. Mfg. Co. Welch, T. F. Mfg. Co. Wellman Seaver Engineering                                                                                                               |
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| Lawrence Bros. 126   Nea. J. Tatnali & Co. 90   LeCount, Wm. G. 118   LeCount, Wm. G. 118   LeCount, John & Co. 98   Leonard, John & Co. 98   Lindsay, W. W. & Co. 24   Lindsay, W. W. & Co. 24   Lindsay, W. W. & Co. 25   Livermore, Homer F. 34&36   Lloyd Mfg. Go. 124   Lockhart Iron & Steel Co. 25   Lodge & Shipley Mch. Tool Co. 83   Logan Fron & Steel Co. 86   Logan & Strobridge Fron Co. 102   Lombart Fron Works & Supply Qo. 86   Loyd, John. 100   Ludlow Saylor Wire Co. 87   Louden Mchy. Co. 136   Loyd, John. 100   Ludlow Saylor Wire Co. 88   Loyd, John. 100   Ludlow Saylor Wire Co. 88   Loyd, John. 100   Ludlow Saylor Wire Co. 89   Lowen Fron & Steel Co. 27   Lund, S. T. 84   Lyon, N. 169   McCaffrey File Co. 118   McCaffrey File Co. 118   McCaffrey File Co. 118   McCaffrey File Co. 128   McKan, Jas. & Co. 90   McKinnon Dash Co. 130   McKan, Jas. & Co. 90   McKinnon Dash Co. 130   McKinnon  | arragansett Mch. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Machine Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Simonds Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Up-to-date Mfg. Co.  Violentine, M. D. & Bro.  Van Dorn Iron Works Co.  Van Dorn Iron Works Co.  Van Wagner & Williams Hardware Co.  Va: lety Machine Co.  Velox Machine Works.  Virginia Iron, Coal & Coke Co.  Vitrined Emery Wheel Co.  Vitrined Emery Wheel Co.  Vulcanus Forging Co.  W Waggoner Watchman Clock Co.  Warles Wm. H. & Co.  Wardlow, S. & C.  Wardlow, S. & C.  Ward. Edsar T. & Sons.  Warner Bros. Co.  Warren City Boller Works.  Warren City Boller Works.  Warren, J. D. Mfg. Co.  Waterbury Brass Co.  Waterbury Brass Co.  Waterbury Farrel Foundry & Machine Co.  Waterbury Rope Co.  Watson, E. P.  Watson, S. A.  Watson, Stillman Co.  Wayne, Anthony Mfg. Co.  Wayne, Anthony Mfg. Co.  Weber Gas & Gasoline Engine Co.  Webeter, Warren & Co.  Webeter, Warren & Co.                                                                                                   |
| Lawrence Bros. 128 Lea, J. Tatnall & CO. 90 Lecaut, Wm. G. 118 Leffer, Chas. & Co. 66 Leng's, Jno. 8, Son & Co. 146 Leng's, Jno. 8, Son & Co. 146 Leonard, John & Co. 99 Leonard & Co. 129 Leschen, A. & Sons Rope Co. 7 Levis, Henry & Co. 22 Lewis Tool Co. 116 Lidgerwood Mfg. Co. 116 Lidgerwood Mfg. Co. 116 Lidgerwood Mfg. Co. 126 Lindsay, W. & Co. 24 Lindsay, W. & Co. 24 Lindsay, W. & Co. 24 Link-Heit Engineering Co. 22 Livermore, Homer F. 34&25 Lloyd Mfg. Co. 124 Lockhart Iron & Steel Co. 28 Logan iron & Steel Co. 89 Logan & Strobridge Iron Co. 102 Lombart Iron Works & Supply Co. 136 Logan & Strobridge Iron Co. 102 Lombart Iron Works & Supply Co. 136 Loyd, John. 100 Ludlow-Saylor Wire Co. 8 Luffin Rule Co. 107 Lukens Iron & Steel Co. 27 Lund, S. T. 84 Lyon, N. 139  McCabe, J. J. 70&83 McCabe Hanger Mfg. Co. 19825 McCaffrey File Co. 183 McCullough Iron Co. 23 McDowell, Stocker & Co. 84 McCure, G. W., Son & Co. 18 McCullough Iron Co. 23 McDowell, Stocker & Co. 84 McGowan, J. H. & Co. 47 McInney, C. 23 Markle Lead Works. 95 Manning, Maxwell & Moore. 85 Manogue-Pidgeon Iron Co. 33 Marville Machine Co. 123 Markle Lead Works. 95 Marin Fire Arms Co. 128 Markham Air Rifie Co. 129 Manning, Maxwell & Moore. 85 Manogue-Pidgeon Iron Co. 23 Markle Lead Works. 95 Marin Fire Arms Co. 128 Markham Air Rifie Co. 129 Manning, Maxwell & Moore. 85 Manogue-Pidgeon Iron Co. 33 Manville Machine Co. 129 Marin Fire Arms Co. 128 Markham Air Rifie Co. 129 Marin Fire Arms Co. 128 Markham Air Rifie Co. 129 Marin Fire Arms Co. 128 Markham Air Rifie Co. 129 Manning, Maxwell & Moore. 85 Manogue-Pidgeon Iron Co. 35 Manville Machine Co. 129 Marin Fire Arms Co. 128 Markham Air Rifie Co. 129 Marin Fire Arms Co. 128 Markham Air Rifie Co. 129 Marin Fire Arms Co. 128 Markham Air Rifie Co. 129 Marin Fire Arms Co. 120 Miller F. 2 Son Co. 146 Miller F. 3 Son Co. 146 | arragansett Mch. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Pittaburg Steel Shafting Co. 28 Pleuger & Henger Mfx. Co. 186 Plume & Atwood Mfz. Co. 2 Plymouth Mills                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Simplex Time Recorder Co 106 Singer, Nimick & Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Utica Drop Forge & Tool Co.  V  Valentine, M. D. & Bro Van Dorn Iron Works Co Van Wagoner & Williams Hardware Co Valety Machine Co Velox Wachine Works Virginia Iron, Coal & Coke Co Vitrified Emery Wheel Co Vulcan Iron Works Waggoner Watchman Clock Co Warlow, S. & C Warllow, S. & C Warllow, S. & C Warner Bros. Co Warner Bros. Co Warner Lity Boller Works Warner J. D. Mfg. Co Waterbury Fasse Co Waterbury Fasse Co Waterbury Fasse Co Wateron Stillman Co Watson, S. A Watson, Anthony Mfg. Co Weber Gas & Gasoline Engine Co Webeter, Warren & Co Webster, Warren & Co                                                                                                                                                  |
| LeCount, Wm. G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Astional Abrasive Mfg Co. 56                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Pleuger & Henger Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Singer, Nimick & Co. 29 Sikinner Chuck Works. 68 Slate, Dwight Meh. Co. 66 Slocomb, J. T. & Co. 118 Smith & Caffrey. 38 Smith & Caffrey. 38 Smith & Egge Mfg. Co. 108 Smith & Hemenway Co. 120 Smith, M. B. Co. 89 Smooth On Mfg. Co. 71 Smythe, S. R. Co. 1nc. 40 Snell Mfg. Co. 106 Snow, L. T. 145 Snow Flake Axle Grease Co. 108 Snyder, W. P. & Co. 23 Sommer's Son, John. 146 Southern Railway Co. 83 Southwark Fdry. & Meh. Co. 45 Speidel, J. G. 48 Spencer'a, I. S. Sons. 35 Spencer Automatic Meh. Screw Co. 146 Spencer Wire Co. 13 Spofford, W. S. & Son. 35 Springfield Drop Forging Co. 129 Springfield Mfg. Co. 56 Standard Chain Co. 107 Standard Co. 197 Standard Gray. & Mfg. Co. 35 Standard Scale & Supply Co. 69 Standard Tool Co. 58 Standard Varnish Works. 112 Stanley Rule & Level Co. 106 Stan Ley Plate Co. 113 Star Corundum Wheel Co. 54 Star Corundum Wheel Co. 513 | Valentine, M. D. & Bro Van Dorn Iron Works Co Van Wagoner & Williams Hardware Co Valety Machine Co Velox Machine Co Velox Machine Co Vitrinda Emery Wheel Co Vitrinda Emery Wheel Co Vulcan Iron Works. Vulcan Iron Works. Vulcan Iron Works. Vulcan Iron Works. Vulcan Forging Co  Waggoner Watchman Clock Co Wardlow, S. & C Washlung Shops Washlung Shops Mashlung Shops Machine Co Waterbury Rope Co Wateon, E. P Watson, S. A Watson, Stillman Co Wayne, Anthony Mfg. Co Weber Gas & Gasoline Engine Co Webster, Warren & Co Webster, Warren & Co |
| Leffier. Chas. & Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | iational Cutlery Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Plume & Atwood Mfx. Co. 2 Plymouth Mills. 14 Pneumatic Crane Co. 52 Poinier & Lester. 89 Poillock. W. B. Co. 46 Port Chester Bolt & Nut Co. 18 Potter & Johnston Co. 76 Poole, Robt. & Son Co. 46 Port Chester Bolt & Nut Co. 18 Potter & Johnston Co. 78 Potts, Horace T. & Co. 80 Poulterer & Co. 83 Pratt Chuck Co. 61 Pratt & Whitney Co. 75 Prentice Bros. Co. 81 Prentiss, Geo. W. & Co. 81 Prentiss Tool & Supply Co. 85 Prentis Vise Co. 116 Presbrey Fire Brick Co. 85 Pugh, Job T. 16 Pullman, J. Wesley. 90 Pullman Sash Balance Co. 127 Putnam Nail Co. 128  Quint, A. D. 80  R Ramapo Car Wheel Co. 87 Rand Drill Co. 46 Randolph-Clowes Co. 2 Randolph Iron Co. 44 Rawson Electric Co. 135 Read, A. P. & Co. 125 Reading Crane & Hoist Works S Reading Hardware Co. 9 Reading Screw Co. 6 Red Jacket Mfg. Co. 114 Reece, E. F. Co. 64 | Skinner Chuck Works. 68 Slate, Dwight Mch. Co 66 Slate, Dwight Mch. Co 68 Slate, Dwight Mch. Co 118 Sloss Sheffield Steel & Iron Co.23 Smith & Caffrey. 38 Smith & Eage Mfg. Co 109 Smith & Hemenway Co 120 Smith, M. B. Co 89 Smooth On Mfg. Co 71 Smythe, S. R. Co., Inc 40 Snell Mfg. Co 106 Snow, L. T 145 Snow Flake Axle Greise Co 108 Snyder, W. P. & Co 23 Sommer's Son, John 146 Southern Railway Co 89 Southwark Fdry. & Mch. Co 45 Speldel, J. G 48 Spencer's, I. S. Sons 35 Spencer Automatic Mch. Screw Co 146 Spencer Wire Co 13 Spofford, W. S. & Son 35 Springfield Mch. Screw Co 117 Springfield Mch. Screw Co 117 Springfield Mch. Screw Co 197 Standard Co 197 Standard Co 197 Standard Fdry. & Mfg. Co 55 Standard Scale & Supply Co 89 Standard Varnish Works 112 Stanley Rule & Level Co 106 Star Corundum Wheel Co 54                                                                                                                                                                  | Van Wagoner & Williams Hardware Co. Variety Machine Co. Variety Machine Co. Velox Machine Works. Virkinia Iron, Coal & Coke Co. Vitrified Emery Wheel Co. Vitrified Emery Wheel Co. Vulcan Iron Works. Vulcanus Forging Co.  W Waggoner Watchman Clock Co. Wardlow, S. & C. Ward, Edsar T. & Sons. Warner Bros. Co. Warren City Boiler Works. Warner Bros. Co. Warren City Boiler Works. Warner Stros. Co. Warthy Brass Co. Watcrbury Brass Co. Watcrbury Farrel Foundry & Machine Co. Watcon. E. P. Watson. E. P. Watson. Stillman Co. Wayne, Anthony Mfg. Co. Wayne, Anthony Mfg. Co. Weber Gas & Gasoline Engine Co. Webeter, Warren & Co. Webeter, Warren & Co.                                                                                                                                                                                                                                    |
| Leng's, Jno. S., Son & Co. 146   Leonard, John & Co. 99   Leonard & Co. 182   Lewis Tool Co. 116   Lidgerwood Mfg. Co. 146   Lidlenberg, N. 29   Lima Steel Co. 146   Lidlenberg, N. 29   Lima Steel Castings Co. 31   Lindsay, W. & Co. 24   Link-Pelt Engineering Co. 52   Livermore. Homer F. 34425   Loyd Mfg. Co. 124   Lockhart Iron & Steel Co. 25   Loyd Mfg. Co. 124   Lockhart Iron & Steel Co. 25   Logan & Strobridge Iron Co. 102   Lombart Iron Works & Supply Co. 86   Lorain Foundry Co. 82   Lorain Steel Co. 29   Louden Mchy. Co. 136   Loyd, John. 100   Ludow-Saylor Wire Co. 88   Lufkin Rule Co. 107   Lukens Iron & Steel Co. 27   Ludow-Saylor Wire Co. 88   Lufkin Rule Co. 107   Lukens Iron & Steel Co. 27   Lund, S. T. 40   Ludow-Saylor Wire Co. 84   Lyon, N. 169   McCabe Hauger Mfg. Co. 198125   McCaffrey File Co. 188   McCure, G. W., Son & Co. 10   McCoy, Jos. F. Co. 53   McCullough Iron Co. 23   McCullough Iron Co. 23   McCullough Iron Co. 23   McChinney Mfg. Co. 123   McKinnon Dash Co. 123   McKinnon Dash Co. 123   Marshall & Huschart Machy. Co. 86   Manogue-Pidgeon Iron Co. 35   Marshall & Huschart Machy. Co. 86   Manogue-Pidgeon Iron Co. 35   Marshall & Huschart Machy. Co. 86   Manogue-Pidgeon Iron Co. 35   Marshall & Huschart Machy. Co. 86   Manogue-Pidgeon Iron Co. 35   Marshall & Huschart Machy. Co. 86   Manogue-Pidgeon Iron Co. 35   Marshall & Huschart Machy. Co. 86   Manogue-Pidgeon Iron Co. 36   Marshall & Huschart Machy. Co. 86   Manogue-Pidgeon Iron Co. 36   Marshall & Huschart Machy. Co. 86   Manogue-Pidgeon Iron Co. 37   Manning, Maxwell & Moore. 86   Manogue-Pidgeon Iron Co. 38   Marshall & Huschart Machy. Co. 86   Manogue-Pidgeon Iron Co. 86   Manus Electric Co. 89   Marshall & Huschart Machy. Co. 86   Marshall & Huschart Machy. Co. 86   Manus Electric Co. 89   Marshall & Huschart Machy. Co. 86   Miller & Engineering Co. 46   Miller & Engineering Co. 46   Miller & Engineering Co. 46   Miller & Hallo | ational Elastic Nut Co. 14 ational Horse Nail Co. 132 ational Machinery Co. 60 ational Pancoast Ventilator Co. 99 ational Pipe Bending Co. 48 fational Saw Co. 100 ational Sewing Machine Co. 112 fational Sewing Machine Co. 112 fational Seeving Machine Co. 124 fational Steel Co. 27 fational Tube Co. 27 fational Tube Co. 46 fazel & Bassett. 54 fees, Geo. M. Jr. 116 few Albany Mfg. Co. 96 few Brunawick Fdry. Co. 36 few Brunawick Fdry. Co. 36 few Century Mfg. Co. 99 few Loty Mfg. Co. 72 few England Steel Casting Co. 31 few England Steel Casting Co. 66 few Haven Wire Cloth Co. 18 few Hall, Henry B. 19 few Haven Mfg. Co. 66 few Haven Wire Mfg. Co. 68 few Haven Wire Mfg. Co. 68 for J. Iron & Metal Co. 89 for J. Wire Cloth Co. 12 fewkirk, J. B. & Co. 30 few Process Twist Drill Co. 59 for Process Twist Drill Co. 59 for Y. Air Compressor Co. 47 for Y. Blower Co. 69 for Y. Stamping Co. 18 for Mfg. Co. 69 for Mfg. Co. 69 for Mrg. Co. 69 for | Pneumatic Crane Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Sloss Sheffield Steel & Iron Co.23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Van Wagoner & Williams Hardware Co. Variety Machine Co. Variety Machine Co. Velox Machine Works. Virkinia Iron, Coal & Coke Co. Vitrified Emery Wheel Co. Vitrified Emery Wheel Co. Vulcan Iron Works. Vulcanus Forging Co.  W Waggoner Watchman Clock Co. Wardlow, S. & C. Ward, Edsar T. & Sons. Warner Bros. Co. Warren City Boiler Works. Warner Bros. Co. Warren City Boiler Works. Warner Stros. Co. Warthy Brass Co. Watcrbury Brass Co. Watcrbury Farrel Foundry & Machine Co. Watcon. E. P. Watson. E. P. Watson. Stillman Co. Wayne, Anthony Mfg. Co. Wayne, Anthony Mfg. Co. Weber Gas & Gasoline Engine Co. Webeter, Warren & Co. Webeter, Warren & Co.                                                                                                                                                                                                                                    |
| Leonard, John & Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ational Horse Nail Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Poinier & Lester                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Sloss Sheffield Steel & Iron Co.23 Smith & Caffrey                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Van Wagoner & Villiams Hardware Co.  Va: lety Machine Co. Velox Machine Works. Virxinia Iron, Coal & Coke Co. Virxinde Emery Wheel Co. Vitrified Emery Wheel Co. Vulcan Iron Works. Vulcanus Forging Co.  Waggoner Watchman Clock Co. Warladae, Wm. H. & Co. Warladow, S. & C. Wardlow, S. & C. Wardle Gaar T. & Sons. Warner Bros. Co. Watson Stillman Co. Waterbury Brass Co. Waterbury Bross Co. Watson, S. A. Watson, S. Co. Weber Gas & Gasoline Engine Co. Webeter, Warren & Co. Webeter, Warren & Co.                                                                                                                          |
| Leonhardt & Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ational Machinery Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Pollock, W. B. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Smith & Caffrey                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Hardware Co. Vasiety Machine Co. Valety Machine Co. Velox Machine Works Virxinia Iron, Coal & Coke Co. Vitrified Emery Wheel Co. Vulcan Iron Works. Vulcan Iron Works. Vulcan Iron Works. Vulcan Co.  Wasgoner Watchman Clock Co. Wardlace, Wm. H. & Co. Wardlow, S. & C. Wardle Edgar T. & Sons. Warner Bros. Co. Warner City Boller Works. Warner ICty Boller Works. Warner J. D. Mfg. Co. Waterbury Brass Co. Waterbury Brass Co. Waterbury Farrel Foundry & Machine Co. Waterbury Rope Co.             |
| Levis, Henry & Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | CO. 99 fational Pipe Bending Co. 48 fational Saw Co. 100 fational Sewing Machine Co. 112 fational Specialty Mfg. Co. 124 fational Specialty Mfg. Co. 124 fational Steel Co. 27 fational Wire Corp. 13 fational Wire Corp. 13 fational Wire Corp. 14 fational Wire Corp. 15 fational Wire Corp. 16 fazel & Bassett. 54 fess. Geo. M. Jr. 16 few Albany Mfg. Co. 36 few Century Mfg. Co. 36 few Century Mfg. Co. 72 few England Steel Casting Co. 31 few England Steel Casting Co. 31 few England Structural Co. 19 few Freedom Wire Cloth Co. 13 few Haven Mfg. Co. 68 few Haven Wire Mfg. Co. 68 few Haven Wire Mfg. Co. 56 f. J. Iron & Metal Co. 89 f. J. Wire Cloth Co. 12 few Kirk, J. B. & Co. 30 few port News Shipbuilding & Dry Dock Co. 45 few Process Twist Drill Co. 59 f. Y. Air Compressor Co. 47 f. Y. Blower Co. 69 f. Y. Air Compressor Co. 18 fix Mfg. Co. 18 fix Mfg. Co. 18 fix Mfg. Co. 18 fix Machinery Depot. 83 f. Y. Stamping Co. 18 fix Machinery Depot. 83 fix Faran Machine & Tool Works 71 fixing Tar Screw Co. 14 ficholson & Co. 94 ficholson & Co. 94 ficholson & Co. 94 ficholson & Co. 94 ficholson, W. H. & Co. 64                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Pond Machine Tool Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Smith & Egge Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Variety Machine Co. Velox Machine Co. Virxinia Iron, Coal & Coke Co. Vitrified Emery Wheel Co. Vulcan Iron Works. Vulcan Iron Works. Vulcanus Forging Co.  W Waggoner Watchman Clock Co. Wardlow, S. & C. Ward, Edsar T. & Sons. Warner Bros. Co. Warren City Boiler Works. Warner Bros. Co. Warner City Boiler Works. Warner Bros. Co. Warner City Boiler Works. Warner J. D. Mig. Co. Watcrbury Brass Co. Watcrbury Brass Co. Watcrbury Farrel Foundry & Machine Co. Waterbury Rope Co. Watson. E. P. Watson. Stillman Co. Watson. Stillman Co. Wayne, Anthony Mig. Co. Weber Gas & Gasoline Engine Co. Webster, Warren & Co. Webster, Warren & Co.                                                                                                                                                                                                                                                  |
| Lewis Tool Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ational Pipe Bending Co. 48 'ational Saw Co. 100 'ational Saw Co. 100 'ational Sewing Machine Co. 112 'ational Specialty Mfg. Co. 124 'ational Steel Co. 27 'ational Tube Co. 29 'ational Wire Corp. 13 'augatuck Mfg. Co. 46 'azel & Bassett . 54 'ess. Geo. M. Jr. 116 'ew Albany Mfg. Co. 36 'ew Brunswick Fdry. Co. 36 'ew Brunswick Fdry. Co. 36 'ew Brunswick Fdry. Co. 39 'ew England Steel Casting Co. 72 'ew England Steel Casting Co. 19 'ew Freedom Wire Cloth Co. 19 'ew Freedom Wire Cloth Co. 18 'ew Haven Mfg. Co. 68 'ew Haven Wire Mfg. Co. 55 'i. J. Iron & Metal Co. 39 'ewkirk, J. B. & Co. 30 'ewport News Shipbuilding & Dry Dock Co. 47 'i. Y. Blower Co. 47 'i. Y. Blower Co. 69 'i. Y. Air Compressor Co. 47 'i. Y. Blower Co. 69 'i. Y. Machinery Depot. 83 'i. Y. Stamping Co. 13 'ilagara Screw Co. 14 'ilagara Screw Co. 14 'ilagara Screw Co. 14 'ilagara Screw Co. 14 'ilacholson, W. H. & Co. 64 'ilcholson, W. H. & Co. 64                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Poole, Robt. & Son Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Smith & Hemenway Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Velox Machine Works. Virxinia Iron, Coal & Coke Co. Vitrified Emery Wheel Co Vulcanus Forging Co  Wallace, Win. H. & Co Warlace, Win. H. & Co Warlace, Win. H. & Co Wardlow, S. & C Warren City Boller Works Warren City Boller Works Warner Bros. Co Washburn Shops Washburn Shops Washburn Shops Waterbury Brass Co Waterbury Bope Co Watson, E. P Watson, S. A Watson-Stillman Co Wayne, Anthony Mfg, Co Weber Gas & Gasoline Engine Co Webster, Warren & Co Webster, Warren & Co Webster, Warren & Co                                                                                                                                                                                                                                                                                               |
| Lidigerwood Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ational Saw Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Port Chester Bolt & Nut Co. 18 Potter & Johnston Co. 78 Potts, Horace T. & Co. 90 Poulterer & Co. 83 Pratt Chuck Co. 61 Pratt & Whitner Co. 75 Prentice Bros. Co. 81 Prentias, Geo. W. & Co. 8 Prentis Tool & Supply Co. 55 Prentis Vise Co. 116 Presbrey Fire Brick Co. 55 Prentis Vise Co. 116 Presbrey Fire Brick Co. 18 Pullman, J. Wesley. 80 Pullman Sash Balance Co. 127 Putnam Nail Co. 138  Q Quint, A. D. 80  R Ramapo Car Wheel Co. 57 Rand Drill Co. 46 Randolph Clowes Co. 2 Randolph Iron Co. 34 Rawson Electric Co. 135 Read, A. P. & Co. 57 Reading Crane & Hoist Works 58 Reading Crane & Hoist Works 58 Reading Hardware Co. 99 Reading Hardware Co. 99 Reading Screw Co. 6 Rec Jacket Mfg. Co. 114 Recec, E. F. Co. 64                                                                                                           | Smooth On Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Vitrified Emery Wheel Co.  Vulcan Iron Works.  Vulcanus Forging Co.  W  Waggoner Watchman Clock Co.  Wallace, Wm. H. & Co.  Wardlow, S. & C.  Ward, Edsar T. & Sons.  Warner Bros. Co.  Warner City Boiler Works.  Warner Stros. Co.  Warner, J. D. Mfg. Co.  Washburn Shops.  Washburn Shops.  Washburn Shops.  Washlugton Coal & Coke Co.  Waterbury Brass Co.  Waterbury Farrel Foundry &  Machine Co.  Waterbury Rope Co.                                                                                                                                          |
| Liffenberg, N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ational Sewing Machine Co. 112 'ational Specialty Mfg. Co 124 'ational Steel Co 27 'ational Tube Co 27 'ational Tube Co 27 'ational Wire Corp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Potts, Horace T. & Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Smythe, S. R. Co., Inc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Vulcanus Forging Co  W Waggoner Watchman Clock Co  Wallace, Wm. H. & Co  Warldow, S. & C  Wardle, Edsar T. & Sons  Warner Bros. Co  Warner Bros. Co  Warner City Boller Works  Warner J. D. Mfg. Co  Washburn Shops  Washburn Shops  Washburn Shops  Waterbury Brass Co  Waterbury Farrel Foundry & Machine Co  Waterbury Rope Co  Watson, E. P  Watson, S. A  Watson-Stillman Co  Wayne, Anthony Mfg. Co  Weber Gas & Gasoline Engine Co  Webster, Warren & Co  Webster, Warren & Co  Webster, Warren & Co                                                                                                                                                                                                                                                                                                                                                                                            |
| Lima Steel Castings Co. 34 Lindsay, W. & Co. 24 Lindsay, W. & Co. 25 Livermore, Homer F. 34&25 Livermore, Homer F. 34&25 Loyd Mfg. Co. 124 Lockhart Iron & Steel Co. 26 Logan Iron & Steel Co. 26 Logan Fron & Steel Co. 80 Logan Fron & Steel Co. 80 Logan Fron & Steel Co. 80 Logan & Strobridge Iron Co. 102 Lombart Iron Works & Supply Co. 105 Lombart Iron Works & Supply Co. 105 Lombart Iron Works & Supply Co. 105 Lorain Foundry Co. 125 Lorain Foundry Co. 125 Lorain Foundry Co. 125 Lorain Foundry Co. 126 Loyd, John. 100 Ludiow-Saylor Wire Co. 107 Lukens Iron & Steel Co. 27 Lund, S. T. 84 Lyon, N. 1.9  M McCabe, J. J. 70&33 McCabe Hanger Mfg. Co. 192125 McCaffrey File Co. 118 McClure, G. W., Son & Co. 10 McCoy, Jos. F. Co. 53 McCullough Iron Co. 23 McChinney Mfg. Co. 123 McKinnon Dash Co. 123 Markin Brire Arms Co. 123 Markin Brire Arms Co. 123 Markin Kine Co. 124 Malus Mg. Co. 125 Markin Fire Arms Co. 128 Markin Machine Co. 27 Marcollege of Mines 94 Michigan Wire Cloth Co. 13 Miller, H. J. 16 Miller Engineering Co. 46 Miller, H. J. 16 Miller Engineering Co. 40 Miller, H. J. 16 Miller | Actional Specialty Mfg. Co. 124                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Poulterer & Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Snell Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Waggoner Watchman Clock Co Wallace, Wm. H. & Co. Wardled, S. & C. Wardled, S. & Co. Wardled, S. & Co. Wardled, S. & Co. Wardled, S. & Co. Waterbury Brass Co. Waterbury Brass Co. Waterbury Farrel Foundry & Machine Co. Waterbury Rope Co. Weber Gas & Gasoline Engine Co. Webster, Warren & Co. Welch, T. F. Mfg. Co.                                                                                                                                                                                                                                          |
| Link-Belt Engineering Co. 22 Livermore, Homer F. 344236 Lloyd Mfg. Co. 1244 Lockhart Iron & Steel Co. 28 Lodga & Shipley Mch. Tool Co. 83 Logan Iron & Steel Co. 89 Logan Fron & Steel Co. 99 Logan & Strobridge Iron Co. 102 Lombart Iron Works & Supply Co. 136 Lorain Foundry Co. 32 Lorain Foundry Co. 136 Loyd, John. 100 Ludlow-Saylor Wire Co. 88 Lurkin Rule Co. 197 Lukens Iron & Steel Co. 27 Lund, S. T. 84 Lyon, N. 1.9  MCCabe, J. J. 70483 McCabe Hanger Mfg. Co. 192 McCaffrey File Co. 18 McCullough Iron Co. 23 McCaullough Iron Co. 23 McCaullough Iron Co. 23 McKinney Mfg. Co. 123 Marklan Belting Co. 44 Magnolia Metal Co. 1 Main Belting Co. 45 Manogue-Pidgeon Iron Co. 33 Marklin Fire Arms Co. 128 Markham Air Rifie Co. 128 Markham Air Rifie Co. 129 Manson Regulator Co. 86 McFerlant & Co. 86 Marson Regulator Co. 86 Mason Regulator Co. 86 Mason Regulator Co. 86 Markham Air Rifie Co. 129 Manson Regulator Co. 86 Marson Regulator Co. 86 Marson Regulator Co. 86 Miller F. & Son. 85 Mar Spalding. 89 Marylie Markline Co. 129 Manson Regulator Co. 86 Miller F. & Son. 85 Marchant & Co. 190 Miller F. Co. 190 Miller F. Co. 190 Miller F. Co. 190 Miller F. Son. 85 Miller F. Co. 190 Miller F. Co. 190 Miller F. Son. 190 Mille | ational Tube Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Pratt Chuck Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Snow, L. T.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Co.  Wallace, Wm. H. & Co. Wardlow, S. & C. Ward, Edsar T. & Sons. Warner Bros. Co. Warren City Boller Works. Warren, J. D. Mfg. Co. Washburn Shops. Washburn Shops. Washington Coal & Coke Co. Waterbury Brass Co. Waterbury Farrel Foundry & Machine Co. Waterbury Rope Co. Wateon, E. P. Watson, Stillman Co. Wayne, Anthony Mfg. Co. Weber Gas & Gasoline Engine Co. Webster, Warren & Co. Welch, T. F. Mfg. Co.                                                                                                                                                                                                                                                                                                                                                                 |
| Livermore, Homer F 84&256 Lloyd Mfg. Co 124 Lloyd Mfg. Co 124 Lockhart Iron & Steel Co 25 Lodge & Shipley Mch. Tool Co 83 Logan iron & Steel Co 89 Logan iron & Steel Co 195 Lowled Mchy. Co 135 Loyd, John 100 Ludlow Saylor Wire Co 8 Lurkin Rule Co 107 Lukens Iron & Steel Co 27 Lund, S. T 84 Lyon, N 139  McCabe, J. J 70&83 McCabe Hanger Mfg. Co 198 McCalfrey File Co 118 McClure, G. W., Son & Co 10 McCox, Jos. F. Co 53 McClowell, Stocker & Co 84 McFarland, Wm 66 McGowan, J. H. & Co 47 McInnes, C. E 27 McKay, Jas. & Co 30 McKinney Mfg. Co 123 McKinnon Dash Co 123 McKinnon Dash Co 123 Markin Beiting Co 44 Magnolia Metal Co 123 Markin Mfg. Co 123 Markie Lead Works 95 Marini Fire Arms Co 128 Markin Beiting Co 86 Mason & Parker 103 Maywood F'dry & Mch. Co 29 Manon & Spalding 89 Mayhew, H. H. Co 120 Maywood F'dry & Mch. Co 29 Many & Spalding 89 Mayhew, H. H. Co 120 Miller, E. & Co 89 Miller, C. & Son Co 89 Miller, E. & Co 89 Miller, E. & Co 89 Miller, E. & Son Co 80 Miller, E. & Wan Unitle 146 Miller Figheer 96 Miller, E. & Wan Unitle 146 Miller Figheer 96 Miller, E. & Wan Unitle 146 Miller Figheer 96 Miller, E. & Wan Unitle 146 Miller Figheer 96 Miller, E. & Wan Unitle 146 Miller Figheer 96 Miller, E. & Wan Unitle 146 Miller Figheer 96 Miller, E. & Wan Unitle 146 Miller E. Fallec Co 80 Miller, E. & Wan Unitle 146 Miller Figheer 96 Miller, E. & Wan Unitle 146 Miller E. Fallec Co 80 Miller, E. & Wan Unitle 146 Miller E. Fallec Co                                                                                                                                                                                                                                                                                                                                                                     | ational Wire Corp. 13 augatuck Mfg. Co. 46 fazel & Bassett. 54 fess. Geo. M., Jr. 116 few Albany Mfg. Co. 96 few Brunswick Fdry. Co. 96 few Brunswick Fdry. Co. 99 few Doty Mfg. Co. 72 few England Steel Casting Co. 81 few England Structural Co. 19 few Freedom Wire Cloth Co. 18 few Hayen Wire Cloth Co. 18 few Haven Mfg. Co. 68 few Haven Wire Mfg. Co. 56 f. J. Iron & Metal Co. 89 f. J. Wire Cloth Co. 12 fewkirk, J. B. & Co. 30 few Process Twist Drill Co. 59 f. Y. Alr Compressor Co. 47 f. Y. Blower Co. 99 f. Y. Machinery Depot. 33 f. Y. Stamping Co. 106 for Mfg. Co. 138 fiagara Machine & Tool Works. 71 fiagara Screw Co. 14 filocholson & Co. 94                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Pratt & Whitney Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Snow Flake Axle Gre use Co108                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Co.  Wallace, Wm. H. & Co. Wardlow, S. & C. Ward, Edsar T. & Sons. Warner Bros. Co. Warren City Boller Works. Warren, J. D. Mfg. Co. Washburn Shops. Washburn Shops. Washington Coal & Coke Co. Waterbury Brass Co. Waterbury Farrel Foundry & Machine Co. Waterbury Rope Co. Wateon, E. P. Watson, Stillman Co. Wayne, Anthony Mfg. Co. Weber Gas & Gasoline Engine Co. Webster, Warren & Co. Welch, T. F. Mfg. Co.                                                                                                                                                                                                                                                                                                                                                                 |
| Lloyd Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | augatuck Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Prentice Bros. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Sommer's Son, John.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Co.  Wallace, Wm. H. & Co. Wardlow, S. & C. Ward, Edsar T. & Sons. Warner Bros. Co. Warren City Boller Works. Warren, J. D. Mfg. Co. Washburn Shops. Washburn Shops. Washington Coal & Coke Co. Waterbury Brass Co. Waterbury Farrel Foundry & Machine Co. Waterbury Rope Co. Wateon, E. P. Watson, Stillman Co. Wayne, Anthony Mfg. Co. Weber Gas & Gasoline Engine Co. Webster, Warren & Co. Welch, T. F. Mfg. Co.                                                                                                                                                                                                                                                                                                                                                                 |
| Lockhart Iron & Steel CO. 28 Lodge & Shipley Mch. Tool Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Age   & Bassett                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Prentiss Tool & Supply Co 85 Prentiss Vise Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Southwark Fdry. & Moh. Co. 45 Speidel, J. G. 48 Spencer'a, I. S. Sons. 35 Spencer Automatic Mch. Screw Co. 146 Spencer Wire Co. 13 Spofford, W. S. & Son. 35 Springfield Drop Forging Co. 129 Springfield Mrg. Co. 35 Standard Chain Co. 107 Standard Co. 197 Standard Fdry. & Mrg. Co. 35 Standard Scale & Supply Co. 69 Standard Tool Co. 58 Standard Varnish Works. 112 Stanley Works. 126 Stanley Works. 126 Star Corundum Wheel Co. 54 Star Corundum Wheel Co. 54 Star Corundum Wheel Co. 54 Star Corundum Wheel Co. 51                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Wallace, Wm. H. & Co. Wardlow, S. & C. Wardlow, S. & C. Ward. Edsar T. & Sons. Warner Bros. Co. Warren City Bolier Works Warnen, J. D. Mfg. Co. Washburn Shops Washburn Shops Washington Coal & Coke Co. Waterbury Brass Co. Waterbury Farrel Foundry & Machine Co. Waterbury Rope Co. Watson, E. P. Watson, S. H. Watson-Stillman Co. Wayne, Anthony Mfg. Co. Weber Gas & Gasoline Engine Co. Webster, Warren & Co. Webster, Warren & Co.                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Loaga Finipey Man. 1001 Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Lens. Geo. M., Jr                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Prentiss Vise Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Southwark Fury, & Mon. Co. 48 Spencer's, I. S. Sons                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ward, Edsar T. & Sons.  warrer Bros. Co.  Warrern, J. D. Mfg. Co.  Washburn Shops  Washburn Shops  Washburn Shops  Washburn Shops  Washington Coal & Coke Co.  Waterbury Brass Co.  Waterbury Farrel Foundry &  Machine Co.  Waterbury Rope Co.  Waterbury Rope Co.  Waterbury Rope Co.  Watson, E. P.  Watson, S. A.  Watson Stillman Co.  Wayne, Anthony Mfg. Co.  Weber Gas & Gasoline Engine  Co.  Webster, Warren & Co.  Welch, T. F. Mfg. Co.                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Logan Iron & Steel Co.   89   Logan & Strobridge Iron Co. 102   Lombart Iron Works & Supply Co.   86   Lorain Foundry Co.   58   Lorain Foundry Co.   58   Lorain Foundry Co.   58   Lorain Foundry Co.   29   Louden Mchy. Co.   136   Loyd, John.   100   Ludiow Saylor Wire Co.   8   Ludiow Saylor Wire Co.   8   Ludiow Saylor Wire Co.   197   Lukens Iron & Steel Co.   27   Lund, S. T.   48   Lyon, N.   1.9   MCCabe, J. J.   70&83   McCabe Hanger Mfg. Co. 19&125   McCaffrey File Co.   118   McCure, G. W., Son & Co.   10   McCoy, Jos. F. Co.   53   McCullough Iron Co.   23   McDowell, Stocker & Co.   54   McFarland, Wm.   6   McGowan, J. H. & Co.   47   McInnes, C. E.   27   McKinnon Dash Co.   130   McKinnon Dash Co.   130   McKinnon Dash Co.   130   McNab & Harlin Mfg. Co.   123   Manning, Maxwell & Moore.   85   Manogue-Pidgeon Iron Co.   35   Markham Air Rifle Co.   123   Markham Air Rifle Co.   123   Markham Air Rifle Co.   123   Markham Air Rifle Co.   124   Mason Regulator Co.   86   Mason Regulator Co.  | iew Brunawick Fdry. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Presbrey Fire Brick Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Speldel, J.G.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Warrer Bros. Co.  Warren, J. D. Mfg. Co.  Washburn Shops  Washburn Shops  Washington Coal & Coke Co.  Waterbury Brass Co.  Waterbury Farrel Foundry & Machine Co.  Waterbury Rope Co.  Waterbury Rope Co.  Watson, E. P  Watson, Stillman Co.  Wayne, Anthony Mfg. Co.  Weber Gas & Gasoline Engine Co.  Webster, Warren & Co.  Welch, T. F. Mfg. Co.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Logan & Strobridge Iron Co. 102 Lombart Iron Works & Supply Co. 80 Lorain Foundry Co. 38 Lorain Steel Co. 29 Louden Mehy. Co. 138 Loyd, John. 100 Ludlow-Saylor Wire Co. 8 Lufkin Rule Co. 107 Lukens Iron & Steel Co. 27 Lund, S. T. 84 Lyon, N. 159  MCCabe, J. J. 77&83 McCabe Hanger Mfg. Co. 19228 McCaffrey File Co. 118 McClure, G. W., Son & Co. 16 McCoy, Jos. F. Co. 53 McCullough Iron Co. 23 McDowell, Stocker & Co. 84 McFarland, Wm. 66 McGowan, J. H. & Co. 47 McInnes, C. E. 27 McKinnon Dash Co. 123 McKinnon Dash Co. 123 McKinney Mfg. Co. 123 McKinney Mfg. Co. 123 McKinney Mfg. Co. 123 Markle Lead Works. 95 Marini Fire Arms Co. 128 Markle Lead Works. 95 Marini Fire Arms Co. 128 Marshall & Huschart Machy. Co. 86 Mason & Parker 108 Mason Regulator Co. 86 Mason & Parker 108 Maywood F'dry & Mch. Co. 99 Marywood F'dry & Mch. | iew Century Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Pugh, Job T                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Spencer'a, I. S. Sons.   Spencer'a L. S. Sons.   Spencer Automatic Mch. Screw   Co.   146     Spencer Wire Co.   13     Spencer Wire Co.   13     Spofford, W. S. & Son.   35     Springfield Drop Forging Co.   129     Springfield Mfg. Co.   56     Standard Chain Co.   107     Standard Chain Co.   197     Standard Fdry. & Mfg. Co.   55     Standard Scale & Supply Co.   69     Standard Tool Co.   58     Standard Varnish Works.   112     Stanley Rule & Level Co.   106     Stanley Works.   126     Star Corundum Wheel Co.   54     Star Corundum Wheel Co.   136     Star Corundum Wheel Co.   137     Star Heel Plate Co.   118                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Warren City Boiler Works.  Warren, J. D. Mfg. Co  Washburn Shops  Washington Coal & Coke Co  Waterbury Base Co  Waterbury Farrel Foundry & Machine Co  Waterbury Rope Co  Waterbury Rope Co  Watson, E. P  Watson, S. A  Watson, Stillman Co  Wayne, Anthony Mfg. Co  Weber Gas & Gasoline Engine Co  Webster, Warren & Co  Webster, Warren & Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Lombart Iron Works & Supply Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | iew Doty Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Pullman Sash Balance Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Spencer Automatic Mch. Screw Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Warren, J. D. Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| ply Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | iew England Steel Casting Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Q   Quint, A. D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Spencer Wire Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Washburn Shops.  Washington Coal & Coke Co  Waterbury Brass Co  Waterbury Farrel Foundry & Machine Co  Waterbury Rope Co  Watson, E. P  Watson, N. A  Watson-Stillman Co  Wayne, Anthony Mfg. Co  Weber Gas & Gasoline Engine Co  Webster, Warren & Co  Webster, Warren & Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Lorain Steel Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | iew England Structural Co. 19 iew Freedom Wire Cloth Co. 18 iew hall, Henry B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Q Quint, A. D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Spofford, W. S. & Son                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Waterbury Brass Co. Waterbury Farrel Foundry & Machine Co. Waterbury Rope Co. Watson, E. P. Watson, N. A. Watson-Stillman Co. Wayne, Anthony Mfg. Co Weber Gas & Gasoline Engine Co Webster, Warren & Co Webster, Warren & Co Welch, T. F. Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Louden Mchy. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Sew Freedom Wire Cloth Co. 18                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | R   Ramapo Car Wheel Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Springfield Drop Forging Co. 129 Springfield Mch. Screw Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Waterbury Farrel Foundry & Machine Co. Waterbury Rope Co. Watson, E. P Watson, N. A. Watson-Stillman Co. Wayne, Anthony Mg, Co Weber Gas & Gasoline Engine Co Webster, Warren & Co Webster, Warren & Co Welch, T. F. Mg, Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Loyd, John 100 Ludlow-Saylor Wire Co 8 Lufkin Rule Co 107 Lukens Iron & Steel Co 27 Lund, S. T 84 Lyon, N 159  MCCabe, J. J 70&83 McCabe Hanger Mfg. Co 19&125 McCaffrey File Co 118 McClure, G. W., Son & Co 10 McCoy Jos. F. Co 53 McCullough Iron Co 23 McDowell, Stocker & Co 84 McFarland, Wm 66 McGowan, J. H. & Co 47 McInnes, C. E 27 McKinney Mfg. Co 123 Markine Belting Co 44 Magnolia Metal Co 1 Main Belting Co 49 Manning, Maxwell & Moore. 85 Manogue-Pidgeon Iron Co 33 Markile Lead Works 95 Marihn Fire Arms Co 128 Markham Air Rifie Co 128 Markham Air Rifie Co 128 Markhel & Huschart Machy. Co 86 Maron & Parker 103 Mason Regulator Co 45 Matthlessen & Hegeler Zino Co 2 Maywood F'dry & Mch. Co 99 Merchant & Co 86 Maron & Spaiding 89 Marchant & Co 89 Merchant & Co 89 Merchant & Co 89 Merchant & Co 89 Merchant & Co 89 Miller, H. & Son 35 May & Spaiding 89 Miller, C. & Son Co 146 Miller & Lag 40 Miller & Lag 4                                                                                                                                                                                                                                                                                                                                                                         | 19   19   19   19   19   19   19   19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | R   Ramapo Car Wheel Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Springfield Mch. Screw Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Machine Co. Waterbury Rope Co. Watson, E. P. Watson, N. A. Watson-Stillman Co. Wayne, Anthony Mfg, Co Weber Gas & Gasoline Engine Co. Webster, Warren & Co Welch, T. F. Mfg, Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Ludiow-Saylor Wire Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | iew Haven Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Ramapo Car Wheel Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Standard Chain Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Waterbury Rope Co.  Watson, E. P.  Watson, N. A.  Watson-Stillman Co.  Wayne, Anthony Mfg. Co  Weber Gas & Gasoline Engine Co  Webster, Warren & Co  Welch, T. F. Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Lurkin Rule Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | iew Haven Wire Mfg. Co 5 i. J. Iron & Metal Co 89 i. J. Wire Cloth Co 12 iewkirk, J. B. & Co 30 iewport News Shipbuilding & Dry Dock Co 45 iew Process Twist Drill Co. 59 i. Y. Air Compressor Co 47 i. Y. Blower Co 69 i. Y. Machinery Depot 83 i. Y. Stamping Co 106 iew Mfg. Co 138 ilagara Machine & Tool Works 71 ilagara Screw Co 14 ilcholson & Co 94 ilcholson & Co 94 ilcholson & Co 94                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Ramapo Car Wheel Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Standard Co.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Watson, E. P Watson, N. A. Watson, Stillman Co Wayne, Anthony Mfg, Co Weber Gas & Gasoline Engine Co Webster, Warren & Co Welch, T. F. Mfg, Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Lund, S. T                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1. J. Wire Cloth Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Rand Drill Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Standard Fdry. & Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Watson-Stillman Co Wayne, Anthony Mfg. Co Weber Gas & Gasoline Engine Co Webster, Warren & Co Welch, T. F. Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| MCCabe, J. J                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | iewkirk, J. B. & Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Randolph-Clowes Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Standard Scale & Supply Co.       89         Standard Tool Co.       88         Standard Varnish Works.       .112         Stanley Rule & Level Co.       .106         Stanley Works.       .126         Star Corundum Wheel Co.       .54         Star Heel Plate Co.       .113                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Wayne, Anthony Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| MCCabe, J. J                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Kewport News Shipbuilding         45           & Dry Dock Co         45           ficw Process Twist Drill Co         59           I. Y. Air Compressor Co         47           I. Y. Machinery Depot         83           N. Y. Stamping Co         106           Key Mfg. Co         138           Siagara Machine         Tool           Works         71           Yiagara Screw Co         14           Yicholson         94           Nicholson, W. H. & Co         61                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Randolph Iron Co.       34         Rawson Electric Co.       .135         Read, A. P. & Co.       .125         Reade, Wm. A. & Co.       .57         Reading Crane & Hoist Works       53         Reading Hardware Co.       .99         Reading Screw Co.       .6         Red Jacket Mfg. Co.       .114         Reece, E. F. Co.       .64                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Standard Varnish Works.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Weber Gas & Gasoline Engine Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| McCabe, J. J                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | & Dry Dock Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Rawson Electric Co.       .138         Read, A. P. & Co.       .125         Reade, Wm. A. & Co.       .87         Reading Crane & Hoist Works 58       Reading Hardware Co.       .99         Reading Screw Co.       .6         Red Jacket Mfg. Co.       .114         Reece, E. F. Co.       .64                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Stanley Rule & Level Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Webster, Warren & Co<br>Welch, T. F. Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| McCabe Hanger Mfg. Co. 19&125  McCaffrey File Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | New Process Twist Drill Co.         59           N. Y. Air Compressor Co.         47           N. Y. Blower Co.         69           N. Y. Stamping Co.         106           Ney Mfg. Co.         138           Niagara Machine & Tool         71           Works         71           Vilagara Screw Co.         14           Vicholson & Co.         94           Nicholson, W. H. & Co.         61                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Reade, Wm. A. & Co.       87         Reading Crane & Hoist Works       53         Reading Hardware Co.       99         Reading Screw Co.       6         Red Jacket Mfg. Co.       .114         Reece, E. F. Co.       64                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Stanley Works                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Welch, T. F. Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| McCaffrey File Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | N. Y. Blower Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Reading Crane & Hoist Works         53           Reading Hardware Co.         99           Reading Screw Co.         6           Red Jacket Mfg. Co.         .114           Reece, E. F. Co.         64                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Star Corundum Wheel Co 54<br>Star Heel Plate Co113                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Wellman Seaver Engineering                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| McClure, G. W., Son & Co. 40 McCoy, Jos. F. Co. 53 McCullough Iron Co. 23 McDowell, Stocker & Co. 84 McFarland, Wm. 6 McGowan, J. H. & Co. 47 McInnes, C. 27 McKar, Jas. & Co. 30 McKinney Mfg. Co. 123 Manning, Maxwell & Moore. 85 Manning, Maxwell & Moore. 86 Manning, Maxwell & Moore. 85 Markine Lead Works. 96 Marlin Fire Arms Co. 123 Markine Lead Works. 96 Marlin Fire Arms Co. 128 Marshall & Huschart Machy. Co. 86 Mason & Parker. 103 Mason Regulator Co. 45 Mathiessen & Hegeler Zinc Co. 2 Maurer, H. & Son. 35 May & Spalding. 80 Mayhew, H. H. Co. 120 Maywood F'dry & Mch. Co. 39 Mcrchant & Co. 80 Mcrchant & Co. 80 Mcrchant & Co. 80 Mcrchant & Co. 82 Minnus Electric Co. 82 Minnus Electric Co. 136 Miller & Co. 109 Miller, F. S. 17 Miles, E. O. & Co. 89 Miller, Edward & Co. 130 Miller, Edward & Co. 130 Miller, Edward & Co. 130 Miller Engineering Co. 46 Miller Engineering Co. 46 Miller Engineering Co. 40 Miller Enginee | X. Machinery Depot.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Reading Hardware Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Star Heel Plate Co118                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | AA CTITITION S.CO. A. OF TOTAL THE STREET, THE SELLING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| McCoy, Jos. F. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | N. Y. Stamping Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Reading Screw Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Star Mfg Co 118                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| McCullough Iron Co.   23   McDowell, Stocker & Co.   54   McFarland, Wm.   66   McGowan, J. H. & Co.   47   McInnes, C. E.   27   McKar, Jas. & Co.   30   McKinney Mfg. Co.   123   McKinney Mfg. Co.   123   McKinnon Dash Co.   130   McNab & Harlin Mfg. Co.   44   Magnolia Metal Co.   1   Main Beiting Co.   49   Manning, Maxwell & Moore.   85   Manogue-Pidgeon Iron Co.   33   Markine Mfg. Co.   129   Manning, Maxwell & Moore.   85   Manogue-Pidgeon Iron Co.   33   Markine Mfg. Co.   129   Marin Mfg. Co.   129   Manning, Maxwell & Moore.   85   Manogue-Pidgeon Iron Co.   33   Markie Lead Works.   95   Marin Fire Arms Co.   128   Markin Fire Arms Co.   128   Markin Eduard Machine Co.   128   Markin Eduard Machine Co.   128   Mason Regulator Co.   45   Mason Regulator Co.   45   Mason Regulator Co.   45   May & Spalding.   89   May & Spalding.   89   May & Spalding.   89   Maywowd F'dry & Mch. Co.   99   Merchant & Co.   8   Merchants & Manufacturers   Ass'n   96&87   Merrell Mfg. Co.   65   Merrill Bros.   1   Mersick C. & & Co.   65   Mesta Machine Co.   32   Miller Engineering Co.   46   Miller Eng   | Ney Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Red Jacket Mfg. Co114<br>Reece, E. F. Co64                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Dent wife Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Wells Bros. & Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| MeDowell, Stocker & Co. 84 McFarland, Wm. 66 McGawan, J. H. & Co. 47 McInnes, C. E. 27 McKay, Jas. & Co. 30 McKinnes Mfg. Co. 123 McKinnon Dash Co. 123 McKinnon Dash Co. 123 McKinnon Dash Co. 130 McNab & Harlin Mfg. Co. 44 Magnolia Metal Co. 1 1 Main Belting Co. 49 Manning, Maxwell & Moore. 85 Manogue-Pidgeon Iron Co. 33 Marville Machine Co., E. J. 82 Marikam Air Hifle Co. 123 Marike Lead Works. 95 Marlin Fire Arms Co. 128 Marikall & Huschart Machy. Co. 86 Mason & Parker. 103 Mason Regulator Co. 45 Matthiessen & Hegeler Zinc Co. 2 Maurer, H. & Son. 35 May & Spalding. 89 Mayhew, H. H. Co. 120 Maywood F'dry & Mch. Co. 39 Merchants & Manufacturers Ass'n 96&97 Merrell Mfg. Co. 65 Mertil Bros. 1 Mersick C. S. & Co. 65 Mesta Machine Co. 13 Miller Engineering Co. 44 Millera Co. 109 Miller, H. J. 16 Miller Engineering Co. 46 Miller Engineering Co. 40 Miller Engineering Co | Siagara Machine & Tool         Works          Yiagara Screw Co          Yicholson & Co          Sicholson, W. H. & Co       61                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | star Mfg. Co 91                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Westinghouse Electric & Mfg.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| McGowan, J. H. & Co.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Niagara Screw Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Reed & Curtis Mch. Screw Co 73                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Starr Bros. Bell Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| McInnes, C. E                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Nicholson & Co 94<br>Nicholson, W. H. & Co 61                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Reeves, Paul S146                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Staten Island Clay Co 85                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | West Side Foundry Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| McKay, Jas. & Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Nicholson, W. H. & Co 61                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Remington Arms Co128                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Steel Rail Supply Co #9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Wheeler, Mifflin & Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| McKinnon Dash Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Hoboleon Ella Ca                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Republic Iron & Steel Co1&145                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Sterling Emery Wheel Mfg. Co 59                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Wheeling Hinge Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| McNab & Harlin Mfg. Co. 44 Magnolia Metal Co. 1 Main Betting Co. 49 Maine Mfg. Co. 49 Maine Mfg. Co. 49 Maine Mfg. Co. 129 Manning, Maxwell & Moore. 85 Manogue-Pidgeon Iron Co. 33 Manville Machine Co., E. J. 82 Markham Air Rifle Co. 128 Markham Air Rifle Co. 128 Markham Air Rifle Co. 128 Marshall & Huschart Machy. Co. 86 Marin Fire Arms Co. 128 Marshall & Huschart Machy. Co. 86 Mason & Parker. 103 Mason Regulator Co. 45 Mathlessen & Hegeler Zino Co. 2 Maurer, H. & Son. 35 Zay & Spalding. 80 Maryhew, H. H. Co. 120 Maywood F'dry & Mch. Co. 39 Merchant & Co. 8 Merchant & Co. 8 Merchant & Co. 8 Merchant & Co. 8 Merchant & Co. 65 Mesta Machine Co. 82 Mianus Electric Co. 65 Mesta Machine Co. 82 Mianus Electric Co. 136 Mista Machine Co. 13 Mietz, Aug. 44 Mibradt, G. & & Co. 109 Miles, F. S. 17 Miles, E. O. & Co. 19 Miller, Edward & Co. 130 Miller Engineering Co. 46 Miller Engineering Co. 46 Miller Engineering Co. 40                                                                                                                                                                                                | Nicholson File Co119                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | R. I. Perkins Horse Shoe Co32<br>Rhode Island Tool Co 17                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Stevens, J. Arms & Tool Co., 60<br>Steward D. M. Mfg. Co193                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Wheeling Mold & F'dry Co<br>Wheelook, Lovejoy & Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Magnolia Metal Co. 1   Main Belting Co. 49   Maine Mfg. Co. 129   Manning, Maxwell & Moore. 85   Manogue-Pidgeon Iron Co. 85   Manogue-Pidgeon Iron Co. 85   Manogue-Pidgeon Iron Co. 85   Markham Air Rifle Co. 123   Markham Air Rifle Co. 128   Marson Regulator Co. 45   Mason & Parker 103   Mason Regulator Co. 45   Matthlessen & Hegeler Zinc Co. 2   Maurer, H. & Son. 35   May & Spaiding 80   Mayhew; H. H. Co. 120   Maywood F'dry & Mch. Co. 89   Merchant & Co. 8   Merchant & Co. 8   Merchant & Co. 8   Merchant & Co. 65   Merrill Bros. 1   Mersick C. 8 & Co. 65   Merrill Bros. 1   Mersick C. 8 & Co. 65   Mesta Machine Co. 32   Minus Electric Co. 138   Michigan Wire Cloth Co. 13   Mietz, Aug. 44   Milbradt, G. A. & Co. 109   Miles, F. S. 17   Miles, E. O. & Co. 89   Miller, Edward & Co. 130   Miller Engineering Co. 46   Miller Engineering Co. 46   Miller Engineering Co. 40   Miller Engineer | Nicol & Co102                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Richard Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Steward & Romaine Mfg. Co.,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Whitcomb Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Main Belting Co. 49   Maine Mfg. Co. 129   Manning, Maxwell & Moore. 85   Manogue-Pidgeon Iron Co. 33   Manville Machine Co. 2. 82   Markham Air Hifle Co. 123   Markham Air Hifle Co. 128   Markham Air Hifle Co. 128   Markhal & Huschart Machy. Co. 86   Marhall & Huschart Machy. Co. 86   Mason & Parker 103   Mason & Parker 103   Mason & Parker 104   Mason & Parker 105   Matthlessen & Hegeler Zinc Co. 2   Marchant & Co. 2   May & Spaiding 89   Mayhew, H. H. Co. 120   Maywood F'dry & Mch. Co. 29   Merchant & Co. 8   Merchants & Manufacturers Ass'n 96&87   Merrell Mfg. Co. 65   Merrill Bros. 1   Mersick C. & & Co. 65   Mesta Machine Co. 32   Mianus Electric Co. 136   Michigan Wire Cloth Co. 13   Mietz, Aug. 44   Milbradt, G. A. & Co. 109   Miller, F. S. 17   Miles, E. O. & Co. 89   Miller, C. & Son Co. 146   Miller Engineering Co. 40   | Nicoll, B. & Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Richmond Cedar Works134                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Ltd 18                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | White, L. & I. J. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Manning, Maxwell & Moore. 85   Manogue-Pidgeon Iron Co. 33   Manville Machine Co., E. J. 82   Markham Air Rifle Co. 123   Markham Air Rifle Co. 123   Markham Air Rifle Co. 128   Markhall & Huschart Machy. Co. 86   Marine Fire Arms Co. 128   Mason Regulator Co. 45   Matthlessen & Hegeler Zine Co. 2   Maurer, H. & Son. 35   May & Spaiding. 80   Mayhew; H. H. Co. 120   Maywood F'dry & Mch. Co. 89   Merchant & Co. 8   Merchant & Co. 8   Merchant & Co. 65   Merrill Bros. 1   Mersick C. S. & Co. 65   Merrill Bros. 1   Mersick C. S. & Co. 65   Mesta Machine Co. 32   Mianus Electric Co. 138   Michigan College of Mines. 94   Michigan Wire Cloth Co. 13   Mietz, Aug. 44   Milbradt, G. A. & Co. 109   Miller, F. S. 17   Miles, E. O. & Co. 89   Miller, Edward & Co. 130   Miller, Edward & Co. 130   Miller, Edward & Co. 130   Miller Engineering Co. 46   Miller Engineering C | Nilson, A. H. Mch. Co 75                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Ridgway, Craig & Son Co 51                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Stewart Iron Works 9 Stewart Wire Co 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | White Mt. Freezer Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Manogue-Pidgeon Iron Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | North American Metalline Co 8<br>North Bros. Mfg. Co 98                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Ripley & Bartlett                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Stocking, E. B 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Whiting Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Manville Machine Co., E. J. 82     Markham Air Rifle Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Northampton Emery Wheel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Rockford Bolt Works 17                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Stokes Bros. Mfg. Co118                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Whitlock Coil Pipe Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Markle Lead Works                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Co 55                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Rockwell Engineering Co 40                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Storm Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Whiton, D. E. Mch. Co<br>Wickwire Bros                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Marlin Fire Arms Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Northern Engineering Works 58                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Rogers, M. H                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Stow Flexible Shaft Co 60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Wiebusch & Hilger, Ltd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Marshall & Huschart Machy.  Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Norton Emery Wheel Co 55<br>Norton Mfg. Co106                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | & Drill Wks 72                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Stow Mfg. Co 60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Wilbraham-Baker Blower Co.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Mason & Parker                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Norwalk Iron Works Co 47                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Rossiter, McGovern & Co 84                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Stowell Mfg. & Fdry. Co125<br>Streeter, N. B. & Co122                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Wilcox Mtg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Mason Regulator Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Norwalk Pattern & Mfg. Co 28                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Rossman Woven Wire Fence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Strieby & Foote Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Wiley & Russell Mfg. Co648                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Matthlessen & Hegeler Zine Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Nut & Washer Mfg. Co 14<br>Nuttall, R. D. Co 74                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Rowland, William & Harvey146                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Sturtevant, B. F. Co 81                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Williams, A.C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Maurer, H. & Son                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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                                                                                             | Rudolphi & Krummel 71                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Summit Wire Co 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Williams, J. H. & Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| May & Spaiding. 89  Mayhew, H. H. Co. 120  Maywood F'dry & Mch. Co. 29  Merchant & Co. 8  Merchants & Manufacturers Ass'n .96&87  Merrell Mfg. Co. 65  Merrill Bros. 1  Mersick C. S. & Co. 65  Mesta Machine Co. 32  Mianus Electric Co. 136  Michigan College of Mines 94  Michigan Wire Cloth Co. 13  Mietz, Aug. 44  Mibradt, G. A. & Co. 109  Miles, F. S. 17  Miles, E. O. & Co. 89  Miller, C. & Son Co. 146  Miller, Edward & Co. 180  Miller, H. J. 16  Miller, Edward & Co. 180  Miller, Edward & Co. 180  Miller, H. J. 16  Miller Engineering Co. 44  Miller Engineering Co. 44  Miller Engineering Co. 40                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Rutter, A. T 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Superior Charcoal Iron Co 29<br>Supplee Hardware Co102                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Williams, White & Co<br>Williamsport Wire Rope Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Mayhew; H. H. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Obermayer, S. Co 33                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Ryan, J. J. & Co 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Sweetzer, W. A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Willson Aluminum Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Maywood F'dry & Mch. Co. 99  Merchant & Co. 99  Merchant & Co. 89  Merchants & Manufacturers  Ass'n 96&97  Merreil Mfg. Co. 65  Mertil Bros. 1  Mersick C. S. & Co. 65  Mesta Machine Co. 82  Mianus Electric Co. 136  Michigan College of Mines. 94  Michigan Wire Cloth Co. 13  Mietz, Aug. 44  Mibradt, G. A. & Co. 109  Miles, F. S. 17  Miles, E. O. & Co. 89  Millar, C. & Son Co. 146  Miller, Edward & Co. 130  Miller, H. J. 16  Miller Engineering Co. 46  Miller Engineering Co. 986:445  Millert Core Oven Co. 130                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Definger, J. L                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Swindell, W. & Bros 40                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Wilmarth & Morman                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Merchant & Co. 8  Merchant & Manufacturers Ass'n                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Ogden & Wallace 29 Onetda Community                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Sabin Machine Co 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Syracuse Chilled Plow Co135                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Wilmot & Hobbs Mfg. Colk                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Ass'n                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Ormsby, E. A 9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Safety Emery Wheel Co 56                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Т                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Wilson, E. H. & Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Merrell Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Ornamental Iron & Wire Co. 9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Saginaw Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Tabor Mfg. Co 45                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Wilson, H. P. & H. F                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Mersick C. S. & Co. 65  Mesta Machine Co. 82  Mianus Electric Co. 186  Michigan College of Mines 94  Michigan Wire Cloth Co. 13  Mietz, Aug. 44  Mibradt, G. A. & Co. 109  Miles, F. S. 17  Miles, E. O. & Co. 89  Miller, C. & Son Co. 146  Miller, Edward & Co. 180  Miller Engineering Co. 40                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Osborn Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Ot Income Down to Man Co. 104                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Taintor Mfg. Co116                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Wilson & Smith                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Mersta Accine Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Ostrander Fire Brick Co 85                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | D. F. J. 198 - American William Ave. 44                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Talcott, W. O 51                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Wilson, W. A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Mianus Electric Co. 188 Michigan College of Mines. 94 Michigan Wire Cloth Co. 18 Mietz, Aug. 44 Milbradt, G. A. & Co. 109 Miles, F. S. 17 Miles, E. O. & Co. 89 Millar, C. & Son Co. 146 Miller, Edward & Co. 180 Miller, H. J. 16 Miller E. Van Winkle. 146 Miller E. Van Winkle. 146 Miller E. Talle Co. 986 Miller Engineering Co. 40 Miller Engineering Co. 986 Miller Engineering Co. 986 Miller Engineering Co. 190 Miller Engineeri | Ostrander, W. R. & Co109                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | St. Louis Shovel Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Tanite Co146 Taunton Locomotive Mfg. Co. 48                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Winter Bros                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Michigan College of Mines. 94 Michigan Wire Cloth Co. 13 Mietz, Aug. 44 Milbradt, G. A. & Co. 109 Miles, F. S. 17 Miles, E. O. & Co. 89 Millar, C. & Son Co. 146 Miller, Edward & Co. 130 Miller, H. J. 16 Miller & Van Winkle. 146 Miller Engineering Co. 40 Miller Engineering Co. 986 Miller Engineering Co. 986 Miller Engineering Co. 986 Miller Engineering Co. 986 Miller Engineering Co. 980                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Ouls Steel Co.,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Samson Cordage Works 1<br>Samuel, Frank 27                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Taylor's Chas. Sons Co 35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Wire Goods Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Mietz, Aug. 44 Milbradt, G. A. & Co. 109 Miles, F. S. 17 Miles, E. O. & Co. 89 Millar, C. & Son Co. 146 Miller, Edward & Co. 130 Miller, Edward & Co. 146 Miller Edward & Co. 146 Miller Engineering Co. 46 Miller Engineering Co. 40 Miller Engineering Co. 936145 Millett Core Oven Co. 109 Miller Core Oven Co. 109 Miller Engineering Co. 109 Miller A. & Co. 109                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | P                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Samuel, M. & Sons 89                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Tennessee Coal, Iron & R. R.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Wister, Francis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Milbradt, G. A. & Co. 109 Miles, F. S. 17 Miles, E. O. & Co. 89 Millar, C. & Son Co. 146 Miller, Edward & Co. 130 Miller, H. J. 16 Miller & Van Winkle. 146 Miller Engineering Co. 40 Miller Engineering Co. 986:148 Miller Core Oven Co. 100 Miller & | Palmer, I. E                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Saunders' Sons. D 65                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Wister, L. & R. & Co96<br>Withington & Cooley Mfg. Co.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Miles, F. S. 17  Miles, E. O. & Co. 89  Millar, C. & Son Co. 146  Miller, Edward & Co. 180  Miller, H. J. 16  Miller & Van Winkle. 146  Miller Engineering Co. 40  Miller Engineering Co. 98&145  Millett Core Oven Co. 109  Miller & Core Oven Co. 109                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ralmer Hardware Mfg. Co127                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Sawyer Tool Co 98                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Thew Auto. Shovel Co 53<br>Thomas & Lowe Machinery Co 87                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Wolff, R. H. & Co., Ltd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Miles, E. O. & Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Paradox Machinery Co 85                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Thomas, Theodore 94                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Wolfram Works                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Millar, C. & Son Co. 146 Miller, Edward & Co. 180 Miller, H. J. 16 Miller & Van Winkle. 146 Miller Engineering Co. 40 Miller Engineering Co. 986 Miller Engineering Co. 986 Miller Core Oven Co. 109 Miller & A. Co. 109 Miller & A. Co. 109                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Pardee, C. Works., 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C-bundles & West bown Co 100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Thompson, Hugh L 39                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Wood, Alan & Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Miller, H. J. 16  Miller & Van Winkle. 166  Miller Engineering Co. 40  Miller Fails Co. 98&145  Millett Core Oven Co. 109  Ming. A. & Co. 90                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Parker, Chas. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Cohnamons M Sons & Co 102                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Thomson, W. H. & Co 30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Wood, Jno. Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Miller & Van Winkle                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Patch, F. R. Mfg. Co 60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Schwerdtle & Slebert116                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Thomson Bros. & Co104                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Wood, Wm. T. & Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Miller Engineering Co 40 Millers Falls Co 98&146 Millett Core Oven Co 109 Millett Core Oven Co 200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Patterson.F. L 84                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Scott, Chas. Spring Co 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Thurston Mfg. Co 67 Tidewater Steel Co 34                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Woodman, R. Mfg. & Sup. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Pawling & Harnischfeger 50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Tiebout, W. & J109                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Woodruff, O. D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Paxson, J. W. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Committee Bole & Net Co 14                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Titchener, E. H. & Co 16                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Woodruff, Walter W. & Sons.<br>Woods, T. B. Sons                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| BILLION SILE CO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Pedrick & Ayer Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Scranton Ferging Co182                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Titusville Forge Co 39 Tod, Wm. & Co 45                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Woolley Fdry. & Mch. Wks.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Milton Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Pelouse Scale & Mfg. Co 56                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Seaman, D. C. & Co 14                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Worcester Mch. Screw Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Mitchell, W. B106                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Pelouze Scale & Mfg. Co13<br>Pennsylvania Engineering                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Seaman, Sleeth Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Totten & Hogg Iron & Steel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Wormer, C. C. Mchry, Co<br>Wright & Colton Wire Closs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Montgomers V D 104                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Wke                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Seaves Mfg Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Fdy. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Wrightsville Hdw. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Mitchell, W. B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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                                                                              | Seldel & Hastings Co 27                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Transue & Williams Co132                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Wrightsville Hdw. Co<br>Wurster, F. W. & Co<br>Wyman & Gordon                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Moore, Franklin Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Perkins, B. F. & Son 6:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Sanaca Falls Mfg. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Treinewcy, comm a co co., Lon., an                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Morgan Construction Co 11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Pennsylvania smelting Co. 2:<br>Perkins, B. F. & Sou. 6:<br>Perkins Machine Co. 7:<br>Perry, Wm. H. Co. 8:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Trimont Mrg. 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                                             | York Mfg. 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| MOFFIEUE, RODELE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Petry, Wm. 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M. Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Morrison, Robert                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Petry, wm. 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Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Seyfert's Sons, L. F 85<br>Sheffeld Car Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Uehling, Steinbart & Co., Ltd. 39                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Pooding Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Morton, Thos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Petry, wm. 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Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 100day carring                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Charton Co 16                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Union Metallic Cartridge Co. 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Published by DAVID WILLI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Mossherg, Frank Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Perry, Wm. 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Phulips, F. & Sons.  19 Phenix Horseshoe Co.  18                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Shellon Co                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Union Steel Casting Co 38<br>United Metals Selling Co 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Published by DAVID WILLI<br>Co., 253-258 William St.,<br>York. 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Whiton, D. E. Mach. Co., New London, Name of the Constant of the Con

Cider Mills Whitehurst, R. W. & Co., Norfolk, Va Circular Sawing Machines Kidder, R. E., Worcester, Mass.

Clamps
Besley, C. H. & Co., Chicago, III.
Hall, Thos., Brooklyn, N. Y.
Hammer & Co., Branford, Conn

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Clothes J.ine Hook Wilson, E. H. & Co., Allston, Mass. Clothes Pins U. S. Clothes Pin Co., Montpelier, Vt.

Gail
Alabama Consolidated Coal & Iron Co.,
Birmingham, Ala.
Sloss Sheffield Steel & Iron Co., Birmingham, Ala.
Washington Coal & Coke Co., Dawson,

Pa.
Wister, Francis, Philadelphia, Pa.
Coal Cars
Lansing Wheelbarrow Co., Lansing,
Mich.
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Jenkins Iron & Tool Co., Howard, Pa. Coal Shutes Lansing Wheelbarrow Co., Lansing, Mich.

Mich.
Censters
Eclipse Bicycle Co., Elmira, N. Y.
Ceffee and Spice Mills
Arcade Mfg. Co., Freeport, Iil.
Parker, Chas. Co., Meriden. Conn.
Celle
Alagama Consolidated Coal & Iron Co.,
Themingham. Ala.

Amama Consolidated Coal & Iron Co., Birmingham, Ala.
Bessemer Coke Co., Pittaburgh, Pa.
Cherry Valley Iron Co., Pittaburgh, Pa.
Dimmiok, J. K. & Co., Phila, Pa.
Frick, H. C. Oke Co., Philadelphia, Fa.
Sioss Shelfield Sieel & Ir.n Co., Birmingham Ala.
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Virginia Iron, Coal & Coke Co., Bristol,
Va. Tenn, Coal & Coke Co., Bristol,
Va. Tenn, Coal & Coke Co., Brawson.

Washington Coal & Coke Co., Dawson

Pa. 'ister, Francis, Philadelphia, Pa. Colleges folloge of Mines, Houghton,

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Compressed Air Machinery
Phila Pheumatic Tool Co., Phila Pa.
Conductor Pipe
Berger sros. Co., Philadelphia, Pa.
Conveying Machinery
Aultman Co., Canton, Ohio.
Brown Holsting & Conveying Machine
Co., Cleveland, Ohio.
California Wire Works, San Francisco,
Hunt, C. W. Co., W. New Brighton, N. Y.
Jeffrey Mfg. Co., Columbus, O.
Link-Belt Engineering Co., Phila., Pa.
Cooking Utensils
Cleveland Stamping & Tool Co., Cleveland, O.
Copper

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Hungerford, U. T., Brass & Copper Co.,
121 Worth St., N. Y.
United Metals Selling Co., 11 Broadway,
N. Y.

Copper Hammers
Hungerford, U. T., Brass & Copper Co.
121 Worth St. N. V.

121 Worth St. N. Y.

Copper Staff Bands
American Steel & Wire Co., Chicago, Ill.

Lopper Rivets and Burs
Hungerford, U. T., Brass & Copper Co.,
121 Worth St., N. Y.

Copper Tacks and Nails Hungerford, U. T., Brass & Copper Co.

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Samson Cordage Works, Boston, Mass. Silver Lake Co., Boston, Mass.

Cordage Machinery.

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Millet Core Oven Co., Brightwood, Mass. Cork Screws and Cork Pullers Erie Specialty Co., Erie, Pa

Corn Hooks Withington & Cooley Mfg. Co., Jackson, Mich.

Corn Huskers

Wilcox Mfg. Co., Aurora, Ill. Corrugated Iron and Steel

Iron & Steel Roofing Co., Cleve. Garry Iron & Steel Roofing Co., Cleve-land, O. McCullough Iron Co., Wilmington, Del. Scaife, Wm. B. & Sons, Pittsburgh.

Corundum National Abrasive Mfg. Co., Phila., Pa Cotter Pin Machines. Automatic Shuster, F. B. Co., New Haven, Conn.

Cotton Ties American Steel Hoop Co , Battery Park Building, N. Y.

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Durant W. N. Milwaukee Wis. Couplings, Compression Sennett, Geo. B. Co., Youngstown, O.

Cew Ties Garland Chain Co., Rankin, Pa. Oneida Community, Ltd., Niagara Falls,

Oneida Connection of Conveying Mch. Co., Cleveland, O. Chisholm & Moore Mfg. Co., Cleveland, Cleveland Crane & Car Co., Cleveland, Cleveland Crane & Car Co., 136-188 Liberty St., N. Y.
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Pawling & Harnischfeger, Milwaukee, neumatic Crane Co , Pittsburgh, Pa. eading Crane & Hoist Wks., Reading.

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Dixon, Jos. Crucible Co., Jersey City,
N. J.

Cupolas Paxson, J. W. Co., Philadelphia, Pa Cupolas, Hot Blast Byram & Co., Detroit, Mich.

Curry Combs New York Stamping Co., Brooklyn, N.Y.

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N. Y. Smith & Hemenway N. Y. Wiebusch & Hilger, Ltd.,9 to 15 Murray St., N. Y.

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Dampers Williams, A. C., Ravenna, O. Dashes and Fenders McKinnon Dash Co., Buffalo, N. Y.

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American Hdw. Mfg. Co., Ottawa, Ill.
Bilss, E. W. Co., Brooklyn, N. Y.
Ferracute Mach. Co., Bridgeton, N. J.
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Mossberg, Frank Co., Attleboro, Mass.
Richard Mfg. Co., Bloomsburg, Pa.
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Richard Mfg. Co., Bloomsburg, Pa.
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Thompson, negata, where over, to Prill Grinders
Heald, L. S. & Son, Barre, Mass.
Sellers, Wm. & Co., Inc., Phila, Pa.
Washburn Shops of Wortester Polytechnic Inst., Worcester, Mass.
Wilmarth & storman, Grand Rapids,

Mich.

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Barnes, W. F. & John Co., Bockford, III.
Barnes, W. F. & John Co., Bockford, III.
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Bement, Miles & Co., Phila., Pa.
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Bullard Machine Tool Co., Bridgeport,
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Md.

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Hill. Ciarlee & Co., Boston, Mass.
Hoefer Mg. Co., Freeport, Ill.
Frendce Bros., Worcester, Mass.
Quint, A. D., Hartford, Conn.
Shus-er, F. B. Co., New Haven, Conn.
Shiley & Ware, So., Bend., Ind.
Sigourney Tool Co., Hartford, Conn.
Silver Mg. Co., Salem, O.
Slate Dwight Machine Co., Hartford,
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Detrick & Harvey Meh. Co., Baltimore,

Ct. Stow Flexible Shaft Co., Phila., Pa. Wiley & Russell Mfg. Co., Greenfield, Mass. York, S. M. Co., Cleveland, O.

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Drop Forgings

Prop Forgings

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Billings & Spencer Co., Hartford, Conn.

Chicago Drop Forging & Fdry, Co.,

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Clapp, E. D. Mfg. Co., Auburn, N. Y.

Consolidated Railway Electric Lighting & Equipment Co., 100 Broadway,

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Evanton, Property, N. Y.
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Whyman & Gordon, Worcester Mass.
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Electrical Supplies
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Energy Elevator Co., Philadelphia, Pa.
Link Hett Engineering Co. Phila, Pa.
Morse, Williams & Co., Phila, Pa.
Kidgway, Craig & Son Co., Coatesville,
Pa.
Speidel, J. G. Panding Pa. Speidel, J. G., Reading, Pa. Variety Machine Co., Warsaw, N. Y.

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Tante Co., Stroudsburg, Pa.

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Bedgreport Safety Emery Wheel Co.,
Bridgeport, Conn.
Buffalo Emery Wheel Co., Buffalo, N. Y.
Diamond Mach. Co., Providence. R. I.
Northampton Emery Wheel Co., Leeds,
Mass.
Norton Emery Wheel Co., Worcester,
Mass.

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Kennedy, Julian, Pittsburgh, Pa.
Laughlin, Alex & Co., Pittsburgh
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Miller Engineering Co., Pittsburgh, Pa.

Miller Engineering Co., Pittsburgh, Pa.

Morgan Construction Co., Worcester

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Penna. Engineering Wks., New Castle

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Riter-Conley Mfg. Co. Pittsburg
Smythe, S. R. Co., Inc., Pittsburg
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Wellman Seaver Engineering Co.,
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Woolley Fdry. & Meh. Works, Ander son, Ind.

Son, Ind.

Gasoline.

Charter Gas Engine Co., Sterling. Id.

Weber Gas & Gasoline Engine Co., Kin
sas City, Mo.

Watkins, F. M., Cincinnati, O

Wooley Fdry. & Mcn. Works, Ander
Son, Ind.

Kerosene. Mietz, Aug., 126-138 Mott St., N. Y.

Mietz, Aug., 125-138 Mott St., N. Y.

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Butfalo Forge Co., Buffalo, N. Y.
Filer & Stowell Co., Milwaukee, Wis.
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phia, Pa.
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Totten & Hogg Iron & Steel Fdry. Oz
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Wetherill, Robt. & Co., Chester, Pa

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Stewart Iron Works, Cincinnati, Ohle Up-to-date Mig. Co., Terre Haute, Ind.

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Ferre-Uhremium Willson Aluminum Co., 99 CedarStr N. Y.

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Iowa Farming Tool Co., Ft. M. dilson, Ia.
Withington & Cooley Mfg. Co., Jackson,
Foundry Facings

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Boston Gear Works, Boston, Mass.
Cresson, Geo. V. Co., Philadelphis, Pa.
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Hyde Park, Mass.
Gould & Eberhardt, Newark, N. J.
Whiton, D. E. Mch. Co., New London,

Generators, Electric Westinghouse Elec. & Mfg. Co., Pitts-burgh, Pa. Gimlets Norton Mfg. Co. Chester, Conn.

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Bultman, F. H. & Co., Cleveland, O.
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smith & Homenway Co., 296 Broadway,
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Besly, Chas. H. & Co., Chica-o, Ill
Brown & Sharpe Mfg. Co., Providence.
Cincinnat! Milling Mach. Co., Cincinnat!, O
Diamond Mach. Co., Providence, R. I.
Landis Tool Co., Waynesboro, Pa.
Northampton Emery Wheel Co., Leeds,
Mass.

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Norton Emery Wheel Co., Worcester, Mass.
Safety Emery Wheel Co., Springfield, O. Springfield Mfg. Co., Bridgeport, Conn.
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Tanite Co., Stroudsburg, Pa.
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N. V.

Guns Marlin Fire Arms Co., New Haven, Ct. Remington Arms Co., 315 Broadway, New York

Gymnasium Apparatus Narragansett Mch. Co., Providence, B. I Hack Saws

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Hack Saw Frames Millors Falls Co., 28 Warren St., N. Y. Hummer Mold Field, C. H.. Providence, R. I.

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Logan & Strobridge Iron Co., New
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Chicago Pneumatic Tool Co., Chicago,

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Handle Machinery
Defiance Machine Works, Defiance, O.
Hangers, Barn Door
Coleman Hardware Co., Chicago, Ill.

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Lane Bros., Poughkeepele, N. Y.
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National Horse Nail Co., Vergennes, Vt.
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Avery Stamping Co., Cleveland, Ohio Presses. Power

Presses. Power

Adriance Mach. Works, Brooklyn, N. Y.

diffies, E. W. Co., Brooklyn, N. Y.

Cross & Speirs Mch. Co., Waterbury, Ct.

Ferracute Mach. Co., Bridgeton, N. J.

Hibbard, W. H., Brooklyn, N. Y.

Hilles & Jones Co., Wimington, Del.

Keasy & Lear Mch. Co., Coshocton, O.,

Leffier, Chas. & Co., Brooklyn, N. Y.

Manville, E. J. Mch. Co., Waterbury, Ct.

Mossherg & Granville Mfg. Co., Frovi

dence, R. I.

Niagara Machine & Tool Wis., Buffalo

Ferkins Machine Co., Boston, Mass,

Fhila. Machine Co., Boston, Mass,

Fhila. Machine Co., Boston, Miss.

Faudolphi & Krummel, Chicago, Ill.

Shuster, F. B. Co. New Haven, Conn.

Profectiles

Projectiles

National Tube Co., Pittsburgh, Pa. Pruning Shears

Cronk Hanger Co., Elmira, N. Y.

Pulleys

Pulleys
Amer. Pulley Co., Phils., Pa.
Dodge Mg. Co., Mishawaka, Ind.
Eastern Machinery Co., New Haven, Ct.
Evans, G. F., Boston, Mass.
Forster Pulley Works, Hochester, N.Y.
Hess. Snycer & Co., Massillon, O.
Jones & Laughlins, Ltd., Pittsburgh, Pa.
Saginaw Mfx. Co., Saginaw, Mich.
Woods, T. B. Sons, Chambersburg, Pa.

Pumping Machinery

Cook, A. D., Lawrenceburg, Ind.
Filer & Stowell Co., Milwaukee, Wis.
Ingersoll-Sergeant Drill Co., 26 Cortlandt St., N. Y.
Lake City Engineering Co., Erle, Pa.
McGowan, J. H. & Co., Cincinnati, O.
Southwark Fdry. & Mch. Co., Philadelphia, Pa.

Pumps

Athol Pump Co., Athol, Mass.
Sarnes Mfg. Co., Mansfield, O.
Deming Co., Salem, O.
Edson Mfg. Co., Boston, Mass.
Flint & Walling Co., Kendallville, Ind.
Hess, Snyder & Co., Massillon, O.
Humphryes Mfg. Co., Massillon, O.
Myers, F. E. & Bro., Ashland, Ohio.
Red Jacket Mfg. Co., Davenport, Is.
8t, Joseph Pump & Mfg. Co., St, Joseph,
Mo.

Mo. Wilder, S. & Co., Holliston, Mass. Punches, Conductors' Woodman, R. Mfg. & Supply Co., Boston, Mass.

Punches and Shears, Hand and

Power Foundry & Machine Co., So. Bethlehem, Pa. Bicknell Hdw. Co., Jaresville, Wis. Bliss, E. W. Co., Brooklyn. N. Y. Hilles & Jones Co., Wilmington, Del. Mersick. C. S. & Co., New Haven, Cond. New Doty Mfg. Co., Janesville, Wis. Williams, White & Co., Moline, Ill.

Punching and Shearing Harrington & Chicago, Ill. King Perforating Co.

Push Carts Syracuse Chilled Plow Co., Syracuse.

Pyrometers
Uehling, Steinbart & Co., Ltd., Carlentadt, N. J.

Railways, Industrial
Hunt, C. W. Co., West New Brighton,
N. Y.

Rat and Mouse Traps
Burditt & Williams, Boston, Mass. Ratchet Drills eystone Mfg. Co., Buffalo, N. Y.

Rawhide Gears
Nazel & Bassett, Philadelphia, Pa.

Razors
Buck Bros., Milibury, Mass.

Razer Hones Pike Mfg. Co., Pike Station, N. H.

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Heamers
Morse Twist Drill & Mch. Co., New Bedford Mass

Recording Gauges
Bristol Co., wat-rbury, Conn.
Uchling, Steinbart & Co., Ltd., Caristade, N. J.

Reels Gendryk, A. B. Co., New Haven, Conn. Refrigerating Machinery Vork Mfg Co., York, Pa.

Refrigerators

Registers
Stowell Mfg. & Foundry Co., So. Milwaukee, Wis.

waukee, Wis.

Relaying Raits
| Donaidson & Newton, Phila., Pa.
| Donaidson & Newton, Cincinnati, O.
| Issac.loseph Iron Co., Cincinnati, O.
| May & Spalding, 32 Broadway, N. Y.
| teel rail Supply Co. 130 B'way, N. Y.

ridgeport Gun Implement Copper Gungerford, U. T., Brass & Copper Co., 121 Worth St., N. Y.
deal Mfg. Co., New Haven, Conn.

Repairing Sets, Family Mitchell, W. B. nicago, 111. Schrayers, M. Sons & Co. Chicago, Ill. Star Heel Plate Co., Newark, N. J.

Repair Outfits. Farmers' Revolution Counters
Pitkin, A. B. Machry. Co., Providence.
Tabor Mfg. Co., Elizabeth, A. J.

Revolvers
Harrington & Richardson Arms Co.,
Worcester, Mass.
Johnson, Iver, Arms & Cycle Works,
Fitchburg, Mass.

Rheostats. Electric Controller & Supply Co, Cleve-

Rifies
Marlin Fire Arms Co., New Haven, Ct.
Remington Arms Co., 315 B'way, N. Y.
Stevens Arms & Tool Co., Chicopee
Falls, Mass.

Ring Rollers Shuster, F. B. Co., New Haven, Conn.

Riveters Phils. Pneumatic Tool Co., Phila., Pa. Riveters, Pneumatic Chicago Pneumatic Tool Co., Chicago.

Rivets
American Iron & Steel Mfg. Co., Le-

American Iron & Steel Mig. Co., Lebenon, Pa.
American Sorew Co., Providence, R. I.
Blate & Johnson, Waterbury, Conn.
Blate & Johnson, Waterbury, Conn.
Blate & Johnson, Waterbury, Conn.
Cobb & Drew, Plymouth, Mass
Hungerford, U. T., Brass & Copper Co.,
121 Worth St., N. Y.
Meinnes, C. E. & Co., Philla., Ps.
Plymouth Mils, Plymouth, Mass.
Rockford Boit Works, Rockford, Ill.
Townsend C. C. & E. P., New Brighton
Pa.

Fig. Riveting Machines
Bethlehem Foundry & Mch. Co., So.
Bethlehem, Pa.
Shuster, F. L. Co., New Haven, Conn.

Red Mill Machinery Braddock Machine & Mfg. Co., Brad-Braddock Machine & Mfg. Co., Brad-dock Pa Morgan Construction Co., Worcester,

Roll Turning Tools Frethewey.Sam'l & Co., Ltd., Pittsburgh

Relier Bearings
Ball Bearing Co., Boston, Mass,
Mossberg & Granville Mfg. Co.. Providence, B. f.

dence, R. L.

Rolling Mill Machinery

Booth, The Loyd Co., 1 oungstown, O.

Everson, B. M., Pittsburgh, Pa

Farrell Fdry, & Mch. Co., Ansonia, Ct.

Frank-Kneeland Mach. Co., "ittsburgh, Mesta Machine Co., "Ittsburgh, Ya.

Morgan Construction Co., Worcester,

Mass.

Mossberg & Grapville Mfs. Co.

e, k. I. Engineering Wks., New Castle, na. Hogg Iron & Steel Fdry. Co.,

Totten & Hogg Iron & Steel Fdry. Co., Pittsburgh, Pa. Rolls, Chilled, Band and Steel Booth, The Lloyd Co., Youngstown, O. Farrel F'dry & Mach. Co., Ansonia, Ct. Frank-Kneeland Mach. Co., Pittsburgh, Pa. Lorain Foundry Co., Lorain, Ohio. Meats Machine Co., Pittsburgh, Pa. Phila. Roll & Moh. Co., Philadelphia, Pa. Seaman, Sleeth Co., Pittsburgh, Pa. Totten & Hogg Iron and Steel Fdry. Co., Pittsburgh, Pa. Youngstown, Po.

Youngstown, O.
Roofing and Siding
Asolait ready kooing Co., 126 Water
St., N. Y.
Sarry Iron & Steel Boofing Co., Cleve-

carry from a Sieci isooning Co., clercy lond, O., Scaife, Wm. B. & Sons. Pitt-burgh Youngstown Iron & Steel Rooning Co., Youngstown Iron & Steel Rooning Co., American . E., Co., & Wall St., N. Y. American . E., Co., & South St., N. Y. Rope and Web troods. Covert Mg. Co., West Troy, N. Y. Bope Shield from Mg. Co., Columbes, Ohio.

Rope Transmission and Heisting American Mg. Co., 65 wall St., N. Y. Childrenia Wire Works, San Francisco, Land Co.

t, C. W. Co., West New Brighton,

N. S. Leschen, A. & Sons, Rope Co., St. Lusher, A. & Sons, Rope Co., St. Lubber Goods, Rubber Goods, Rubber Goods, Boston, Mass, andeld, H. O. Bridgeport, Coan. Periess Rubber Mfg. Co., 16 Warren Streets, N. Y.

Lufkin Rule Co., Saginaw, Mich. Staniev Rule & Level Co., 29 Chambers St., N. Y.

Sad Irons Williams, A. C., Ravenna, O. Sand Blast Apparatus Ward, Edgar T. & Sons, Boston, Mass.

Baeder, Adamson & Co., Phila, Pa. Granam, Jno. H. & Co., 113 Chambers St., N. Y.

Sash Balances

Caldwell Mfg. Co., Rochester, N. Y. Pullman Sash Balance Co. Rochester, N. Y. Streeter, N. R. & Co., Rochester, N. Y.

Sash Cords and Chains Bridgeport Chain Co., Bridgeport, Conn. Morton, Thos., 65 Elizabeth, N. Y. Samson Cordage Works, Boston, Mass. Sliver Lake Co., Boston, Mass. Smith & Egge Mfg. Co., Bridgeport.

Sash Locks
Fitch, W. & E. T. Co., The, New Haven, Conn. Ives, H. B. & Co., New Haven, Conn. Oefinger, J. L., Chicago, Ill.

eash Pulleys Fox Machine Co., Grand Rapids, Mich. Grand Rapids Hardware Co., Grand Rapids, Mich Palmer Hardware Mfg. Co., Troy, N. Y.

Sash Weights Barney & Reed Mfg. Co., Boston, Mass. Brown, E. E. & Co., Philadelphia, Pa.

Sausage Stuffers National Specialty Mfg. Co., Phila., Pa.

\*Auvena Spanes of the Atkins, E. C. & Co., Indianapolis, Ind. Bishop, Geo. H. & Co., Cincinnati, Ohio. Disston, Henry & Sons, Inc., I'alia, Pa. Jones & Dommersu s., Inicaco, Ill. National Saw Co., Neware, N. J. Simonds Mfg. Co., Fitchburg, Mass.

Saw Clamps
Disston, denry & Sons, Inc., Phila., Pa.
Gunn & Hannah, Pittsburgh, Pa.

Saw Guides Thomson Bros. & Co., Lowell, Mass Saw Handles Ladd, W. C., Bristol, Conn.

Saw Sets Disston, Henry & Sons, Inc., Phila., Pa. Taintor Mfg. Co., 9 to 15 Murray, N. Y.

Saw Teels Atkins. E. C. & Co., Indianapolis, Ind. Scales
Scales
Chatlion, John & Sons, 88-89 Cliff, N. Y.
Chatlion, John & Sons, 88-89 Cliff, N. Y.
Chi ago Scal Co., Chicago, Ill.
Pelouse Scale & Mfg. Co., Chicago, Ill.
Reading Hardware Co., Reading, Pa.
Standard Scale & Supply Co., Pittsburgh.

Standard Scale & Supply Co., Pittsburgh.

Scrap Metals
Armstrong, R. S. & Bro., Atlanta Ga.
Blake, M. J. & M., 18th Ave. and 15th
St., N.Y.
Botjer, C., Hobeken, N. J.
Greiner, F., Philladelphia, Pa.
Hitner, H. A. & Sons, Philia, Pa.
Hofeller, Theo. & Co., Burfalo, N. Y.
Leonard, John & Co., 22 Broadway, N. Y.
Miles, E. O. & Co., Atlan n. & Gn., N. Y.
Lyr, Willer, C. & Co., Atlan n. & Gn., N. Y.
Perry, Wm. H. Co., Providence, R. I.
Phillips, F. R. & Sons Co. Philia, Pa.
Rogers, W. H., Bridgeport, Con.
Samuels, M. Sons, Brooklyn, N. Y.
Smith Morton B. Co., New York.

Scrap Metal Breakers
Birdsboro Iron & Steel Breaking Co.,
Rirdsboro, Pa.

Scrapers, Road
American Steel Scraper Co., Sidney, O.
Aultman Co., Canton, Ohio.
Kilbourne & Jacobs Mfg. Co., Colum
bus, Ohio.
Sidney Steel Scraper Co., Sidney, O.
Syracuse Chilled Plow Co., Svracuse,

Screens, Perforated Metal Harrington & King Perforating Co., Chicago, Ill.

Screens, Window and Door Daroy, Edw. & Sons, Philadelphia, Pa

Serew Cutting Dies
Card, S. W. Mfg. Co., Mansfield, Mass.
Geometric Drill Co., Westville, Con.
Rogers, Jno. M. Boat Gauge & Drill
Wks., Gloucester City, N. J.
Wells Bros. & Co., Greenfield, Mass.
Wiley & Russeli Mfg. Co., Greenfield, Mass Winter Bros., Wrentham, Mass.

Screw Drivers
Brown, R. H. & Co., New Haven, Conn.
Goodell-Fratt Co., Greenfield, Mass.
Mayhew, H. H. Co., Shelburne Falls,
Mayle. Mayae, Mass. More Co., Philadelphia, Pa. Sawver Tool Co., Fitchburg, Mass. Union Mfg. Co., Buffaio, N. Y.

Chion Mfg. Co., Buffalo, N. Y.

Screw Machinery
American Tool Was Co., Cincinnati. O.
Brown & Sharpe Mfg. Co., Providence.
Draper Mach. Tool Co., Worcester, Mass.
Garvin Machine Co., Spring and Variek
Sts., N. Y. Jones & Lamson Mcn.Co., Springfield, Vt., Windsor Mch. Co., Windsor, Vt.

Screws Coach Hall's Sam'l Sons, 23 West 10th St., N.Y Haskell, Wm H Mfg. Co., Pawtucket, R. I Machine

masseil, wm H Mfg. Co., Pawtucket, R. I. Maokies
American Screw Co., Providence, R. I. Blaac & Johnson, Waterbury, Com.
Chicogo Screw Co., Chicogo, Ill.
Haske'l, Wm. H. Mfg. Co., Pawtucket
Hubbell, Harvey, Bridgeport, Conn.
Illinois Screw Co., theaso, Ill
Miles, P. S., 30 Quarry, Philadelbhia,
Niacara crew o, Bulfalo, N. I.
Philis, Mach, Screw Works, Philia., Pa.
Philis burgh Screw & Boli Co., Pittaburgh,
Pa.

Pa. Reed & Curtis Meh. Serew Co., Worces-ter, Mass. Rhode Island Tool Co., Providence, R. I.

Worcester Mch. Screw Co., Worcester. Wood
Merican Screw Co., Providence, B. L.
Franklin Moore Co., Winsted, Conn.
Reading Screw Co., Norristown, Pa.

Reading Screw Co., Norristown, Pa. Spreil Saws
Barnes, W. F. & John Co., Rockford, Ill.
Millers Falls Co., 28 Warren St., N. Y.
Seneca Falls Mfg. Co., Seneca Falls, N. Y.
Scythe Stones and Whetxtones
Cleveland Stone Co., Cleveland, O.
Pike Mfg. Co., Pike Station, N. H.

Seamless Steel Tubes
1 vins Ellwood, 487 Broadway N. Y.
Janney, Steinmetz & Co., Phila., Pa.
National Tube Co., Pittsburgh, Pa.

Sewing Machines National Sewing Machine Co., Belvi-

Shaft Coupling
Shaft Coupling
Nucleon W. H. & Co., Wilkes Barre,

Pa
Shafting
American Steel & Wire Co., Chicago, Ill.
Cresson, Geo. V. Co., Philadelphia, Pa.
Dodge Mfg. Co., Mishawaka, Ind.
Fulrmount Mch. Co., Philadelphia, Pa.
Finished Steel Co., Youngstown, O.
Jones & Laughlins Co., Pittsburgh, Pa
Pardee v. orks, Perth Amboy, N. J.
Pittsburgh Steel Shafting Co., Rankin,
Pa. Pa. Stow Mfg. Co., Binghamton, N. Y. Woods, T. B. Sons, Chambersburg, Pa.

Woods, T. B. Sons, Chambersburg, Pa.
Shaped Iron and Steel
Allentown Kolling Mill, Allentown, Pa.
American Steel Boop Co., Battery Park
Building, N. Y.
Forest City Steel & Iron Co., Cleveland,
Ohto.
Lindsay, W. W. & Co., Phila, Pa.
Lockhart Iron & Steel Co., Pittaburgh,
Pa.

Pa.
National Steel Co., Bridgeport, O.
Passaic Rolling Mill Co., Paterson, N. J.
Phœnix Iron Co., Phila., Pa.
Pittsburgh Steel Shafting Co., Rankin, Republic Iron & Steel Co., Chicago, Ill.

Shapers Barker-Chard Mach. Tool Co, Cincinnati, O.
Gould & Ebernardt, Newark, N. J.
Perkin- Machine Co., Boston, Mass.
Potter & Johnston Co., Pawtucket, R. I.

Shear Knives
Pittsburgh Shear, Knife & Machine Co,
Pittsburgh Pa.
Trethewey, Sam'l & Co., Lt/L. Pittsburgh

Shears and Scissors Acme Shear Co., Bridgeport, Corn. Cattaraugus Cutlery Co., Little Valley, N Y. Heinisch's, R. Sons Co., Newark, N. J. Lan. Cutlery Works, Cedar Rapids, Ia. National Cutlery Co., Phila., Pa. Wiebusch & Hilger, Ltd., 9-15 Murray St., N. Y.

Shears, Metal Carlin's, Thomas Sons Co., Allegheny,

Sheet Bars National S eel Co., Battery Park Build-ing, N. Y.

Sheet and Belt Copper Hungerford, U. T., Brass & Copper Co., 121 Worth St., N. Y. Sheet and Rolled Brass Hungerford, U. T., Brass & Copper Co., 121 Worth St., N. Y.

Sheet Metal Machinery Adriance Mach. Works, Brooklyn, N. Y.

Sheets, Galvanized
American she tsteel Co, New York.
McCullough Iron Co., Wilmington, Del.

McCullough from C. Withington, Del.

Sheets. From and Steel
American Sheet Steel Co., New York.
McCullough from Co., Witmington, Del.
National Steel Co., Bridgeport, O.
Republic from & Steel Co., Chicago, Ill.
Singer, Nimick & Co., no., Pittaburgh,
Wister, L. & R. & Co., Philadelphia, Pa.
Alan Wood Co., Philadelphia.

Sheet Zinc Illinois Zinc Co., Peru, Ill. Matthlessen & Hegeler Zinc Co., La Salle, Ill.

Shelf Boxes
Heller Box Co., Montclair, N. J.
Moore, C. P., Ravenswood, W. Va.

Moore, C. P., Kavenswood, W. v. v. Sheif Ladders Bicycle Step Ladder Co., Chicago, Ill. Coburn Trolley Track Mfg. Co., Holyoke, Mass. Milbradt, G. A. & Co., St. Louis, Mo. Morley Bros., Saginaw, Mich.

helving Warren, J. D. Mfg. Co., Chicago, Ill. Shipbuilders
Newport News Shipbuilding & Dry Dock
Co., 1 Broadway, N. Y.

Shovels, Spades and Scoops St. Louis Shovel Co., St. Louis, Mo

Sinks Kilbourne & Jacobs Mfg. Co., Colum-

Kilbourne & Jacobs Mfg. Co., Columbus, C.
Skates, I.e.
Dame, Stoddard & Co., Boston, Mass.
Union Hardware Co., Torrington, Conn
Skate Sharpeners
Osborn Mfg. Co., Cleveland, O.
Skylights
Drouve, G. Co., Bridgeport, Conn.
Smelting Works
Reeves, Paul S., 700 S. Broad, Phila.
Sanpstene Gloeds
Pike Mfg. Co., Fize Station, N. H.
Soapstene Pencils
Steward, D. M. Mfg. Co., Chattanoogs,
'con

Soldering Copper Handles Hungerford, U. f., Brass & Copper Co., 121 Worth St., N. Y.

121 Worth St., N. Y.
Soldering Coppers
Hungerford, U. P., Brass & Copper Co.,
121 Worth St., N. Y.
Speaking Tabes
Ostrander, W. K. & Co., 204 Fulton St.,
N. Y.

Specialty Manufacturers Franklin, H. H. Mfg. Co., Syracuse, N. Y. Smith & Egge Mfg. Co., Bridgeport, Ct.

Spelter

Matthlessen & Hegele Zinc Co., La Salle, Ill. Penna. Smelting Co., Pittsburgh, Pa.

Spelter Solder Hungerford, U. T., Brass & Copper Co., 121 Worth St., N. Y.

American Iron & Steel Mfg. Co., Le-banon Pa. Spoons and Forks

International Silver Co., Meriden, Ct.

Sporting Goods

Dame, Stoddard & Co, Boston, Mass.

Spray Pumps-(See Pumps)

Springs

American Steel & Wire Co., Chicago, III.
Barnes, Waliace Co., Bristol, Conn.
Cary Spring Works, 340 W. 29th St., N.Y.
Ohatillon, John & Sons, 85-90 Cliff St.,
New York.
Clark & owles, Plainville, Conn.
Dunbar Bross, Bristol, Conn.
Miller & Van Winkle, Brooklyn, N. Y.
Morgan Spring Co., Worcester, Mass.
Sabin Machine Co., Worcester, Mass.
Sabin Machine Co., Moatpeller, V.
Scott, Chas. Spring Co., Phila., Pa.
St. Johns Spring Co., St Johns, Mich.
Welch, T. F. Mig. Co., Boston, Mass.
Warsings. Wargan. Etc.

Springs, Wagon, Etc.
Wurster, F. W. & Co., Brooklyn, N. Y.

Spring Cotters

Brooks, M. S. & Sons, Chester, Conn Hol inger Fence Co., Greenville, O. Spring Hinges

Chicago Spring Butt Co., Chicago, Ill. Coleman Hdw. Co., Chicago, Ill. Van Wagoner & Williams Hdw. Co., Cleveland, O.

Sprocket Chain Buhl Malleable Co., Detroit, Mich. Spruce Cutters, Foot and Power Shuster, F. B Co., New Haven, Conn.

Stacks Scalfe, Wm. B. & Sons, Pittsburgh.

Stamped Ware
Jenkinson, R. C. & Co., Newark, N. J.
Keen & Hagerty, Mfg. Co., Baltimore,
New York Stamping Co., Brooklyn, N. X

New York Stamping Co., Brooklyn, N.Y.

Stamping, Sheet Metal
American Hdw. Mfg. Co., Ottawa, Ilis.
American Stell Scraper Co., St Park
Place. N. Y.
American Stell Scraper Co., Sidney, O.
Clay Stamping Co., Cleveland, Ohio.
Cleveland Stamping & Tool Co., Cleveland, Ohio.
Davis & Buxton Stamping Co., Worcester, Miss.

ter, fiss. Kintz Co., Winsted, Conn. Goodwin & Kintz Co., Winsted, Conn. Houghton & Buxton Mfg. Co., Worcsster, fiss. C. & Co., Newark, N. J. Fekinson, R. C. & Co., Newark, N. J. Konigslow, E. & Bro., Cleveland, Ohlo. Mossberg, Frank Co., Attleboro, Mass. Reed & Curiis Mch. Screw Co., Worcster, Mass.
Wheeling Hinge Co., Wheeling, W. Va. Wilson & Smith, Worcester, Mass.

Staple Wachines, Automatic Shuster, F. B. Co., New Haven, Conn.

Shuster, F. B. Co., New Haven, Comb.
Staples and Double Pointed Tacks
Grand Crossing Tack Co., Grand Crossing, Ill.
Milwaukee Tack Co., Milwaukee, Wis.
Titchener, E. H. & Co., Binghamton,
N. Y.

Steam Hammers, &c. Dienelt & Eisenhardt, Philadeiphia. Dudgeon, Richard, 24 Columbia St., N. Y. Sellers, Wm. & Co., Inc., Phila., Pa.

Steam Heating Webster, Warren & Co., Camden, N. J.

Steam Separators
Harrison Safety Boller Wks., Phila., Pa.
Webster, Warren & Co., Camden. Steam Shovels
Thew automatic Shovel Co., Lorain, O.

Steam Specialties
Crosby Steam Gage & Valve Co., Boston.
Mason Regulator Co., Boston Mass.

Mason Realis
Steel Balls
Cleveland Ball & Screw Co., Cleveland.

Steel Buildings
An erican Bridge Co., East Berlin, Ct.
Boston Bridge Works, Boston, Mass.
New England Structural Co., Boston,
Mass Riter-Conley Mfg. Co., Pittsburgh, Pa. Scaife, Wm. B. &. Sons, Pittsburgh, Pa.

Steel. Cold Rolled Strip American Bicycle Mfg. Co., So. Chicago, Ill.
Wilmot & Hobbs Mfg. Co., Bridgeport.
Wolff, R. H. & Co., Ltd., 198th Street
and Harlem River, N. V.

Steel Forgings and Castings Bethlehem Steel Co., So. Bethlehem, Pa

Steel Hoops
American Steel Hoop Co., Battery Park
Suilding, N. Y. Steel Importers
Hobson, Houghton & Co., 98 John St.

N. Y. Jessop, Wm. & Sons, Sheffield, England, or 91 John St., N. Y. Milne, A. & Co., 1 Broadway, N. Y. Wheelock, Lovejoy & Co., New York and Boston.

Steel (Mushet's Special

Jones, B. M. & Co., Boston.

Steel Maunfacturers.
American Bicycle Mrg. Co., So. Chicago,
American Steel Hoop Co., Battery Park
Building, N. Y.
Ashiand Steel Co., Ashiand, Ky.
Boker, Hermann & Co., 108 Duane St.,
New York.
Braeburn Steel Co., Braeburn, Pa.
Champlon Bron & Steel Co., Muskegos,
Mich.

Mich. Chester Steel Castings Co., Phila., Pa. Chrome Steel Works, Brooklyn, N. Y. Crescent Steel Co., Pittsburgh, Pa.

Frankford Steel Co., Philadelphia. Hobson, Houghton & Co., 98 John St.,

Frankford Steel Co., Philadelphia.
Hobson, Houghton & Co., 28 John St.,
N. Y.
Jessop, Wm. & Sons, Shefield, England,
or 91 John St., New York.
Jones & Laughlins, Ltd., Pittsburgh, Pa.
Kidd Broa. & Burgner Steel Wire Co.,
McKee's Rocks, Pa.
La Belle Steel Co., Pittsburgh, Pa.
Lorain Steel Co., Lorain, Ohlo.
Lukens Iron & Steel Co., Coatesville, Pa.
Nash, Geo. & Co., Chicago.
National Steel Co., Battery Park Bullding. N. Y.
Newkirk, J. B. & Co., Philadelphia, Pa.
Otis Steel Co., Ltd., Cleveland, Ohlo.
Republic Iron & Steel Co., Chicago, Ill.
Rowland, Wm. & Harvey, Frankford,
Philadelphia.
Singer, Nimick & Co., Inc., Pittsburgh.
Tidewater Steel Co., Chicago, Th.
Warnlow, S. & C., Sheffield, England.
Wilmot & Hobbs Mrg. Co., Bridgeport.
Manufacturers' Agents
Ogden & Wallace, 57:-588 Greenwich St.,
New York.
Snyder, W. P. & Co., Pittsburgh, Pa.
Tennessee Coal, Iron & R. R. Co., Birmingham, Ala.
Virginia Iron, Coal and Coke Co., Bristol, Va.—Tenn.

Steel. Self Hardening an & Davis, 85-87 John St., N. Y.

Steel Rails
Lorain Steel Co., Lorain, Ohi

Steel Stamps and Stencil Dies Eucker, L. A. Stamp Wks., Little Ferry, Ness, Geo. M., Jr., 61 Fulton St., N. Schwerdtle & Stebert, Bridgeport. Co

Steel, Tool Steel, Tool
Braeburn Steel Co., Braeburn, Pa.
Crescent Steel Co., Pittsburgh, Pa.
Denman & Davis, 88-37 John St., N. Y.
Frankford Steel Co., Philadelpais, Pa.
Jessop, Wm & Sons, Sheffield, England,
91 John St., Y.
Jones, B. M. & Co., Boston, Mass.
La Belle Steel Co., Pittsburgh, Pa.
Nash, Geo. & Co., Chicago.
Singer, Nimick & Co., Pittsburgh, Pa.

Step Ladders, Rolling Bicycle Step Ladder Co., Chicago, Ill. Cobura Trolley Track Mfg. Co., Hol-woke, Mass. Milbradt, G. A. & Co., St. Louis, Mo. Morley Bros, Saginaw, Mich.

Stocks and Dies

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Stone Cutting Machinery Gilmour, J., Bennett Bld'g, N. Y. Stone Working Machinery Patch, F. R. Mfg. Co., Rutland, Vt.

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